FY2013

YUMA PROVING GROUND

Army Defense Environmental Restoration Program

Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC) and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the Installation Management Command (IMCOM), the US Army Environmental Command (USAEC), US Army Garrison Yuma Proving Ground (YPG), the executing agencies, the regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

A.A.C	Arizona Administrative Code
AAFES	Army and Air Force Exchange Service
ABPs	Agent Breakdown Products
ADEQ	Arizona Department of Environmental Quality
AEDB-R	Army Environmental Database - Restoration
AOC	Area of Concern
AOI	Area of Interest
APP	Aquifer Protection Permit
AST	Aboveground Storage Tank
bgs	below ground surface
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLIN	Contract Line Item Number
CMI (C)	Corrective Measures Implementation (Construction)
CMS	Corrective Measures Study
COC	Contaminant of Concern
CR	Compliance Restoration
CS	Confirmation Sampling
CWA	Chemical Warfare Agent
CWM	Chemical Weapon Munitions
cy	cubic yards
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	(Remedial) Design
DoD	Department of Defense
ER,A	Environmental Restoration, Army (formerly DERA)
FBTS	Fuel Bladder Test Site
FFS	Focused Feasibility Study
FRA	Final Remedial Action
FS	Feasibility Study
ft	feet
FY	Fiscal Year
GPLs	Groundwater Protection Levels
HE	High Explosive
IAP	Installation Action Plan
ICE	Internal Combustion Engine
IMCOM	Installation Management Command
IRA	Interim Remedial Action
IRP	Installation Restoration Program
K	thousand
kg	kilogram
km	kilometer
LAAF	Laguna Army Airfield
LTM	Long-Term Management
LUC	Land Use Controls

Acronyms

LUST	Leaking Underground Storage Tanks
MAA	Main Administrative Area
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MDAS	Material Documented As Safe
MEC	Munitions and Explosives of Concern
MFR	Memorandum For Record
mg	milligram
mm	millimeter
MMRP	Military Munitions Response Program
MPA	Methyl Phosphoric Acid
MRSPP	Munitions Response Site Prioritization Protocol
MW	Monitoring Well
N/A	Not Applicable
NA	No Action
NFA	No Further Action
NPL	National Priorities List
nrSRL	Non-Residential Soil Remediation Level
OU	Operable Unit
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon
PBA	Performance-Based Acquisition
PBC	Performance-Based Contract
POL	Petroleum, Oil, and Lubricants
ppm	parts per million
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RACER	Remedial Action Cost Engineering and Requirements
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	Remedial Feasibility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
rSRL	Residential Soil Remediation Level
SCR	Site Characterization Report
SI	Site Inspection
SRL	Soil Remediation Levels
SVE	Soil Vapor Extraction
SVOC	Semi-volatile Organic Compounds

Acronyms

SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
TVH	Total Volatile Hydrocarbon
ug/L	micrograms per liter
USACHPPM	US Army Center for Health Promotion and Preventive Medicine was renamed U.S. Army Public Health Command
USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency
USAG	US Army Garrison
USATCES	US Army Technical Center for Explosives Safety
USATHAMA	US Army Toxic and Hazardous Materials Agency
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
YPG	Yuma Proving Ground
YTC	Yuma Test Center

Site Alias List

AEDB-R Site ID to Alias List

AEDB-R #	Alias
CCYPG-027	SWMU 37
CCYPG-028	SWMU 36
CCYPG-029	SWMU 41
CCYPG-141	SWMU 39
CCYPG-151	MTA #2
CCYPG-165	YPG004F006
CCYPG-178	
CCYPG-204	YPG004F005
YPG-002-R-01	YPG 2-R-1
YPG-01	YPG-01
YPG-10	YPG-10
YPG-11	YPG-11
YPG-31	YPG-31
YPG-32	YPG-32
YPG-45	YPG-45

Installation Information

Installation Locale

Installation Size (Acreage): 830000
City: Yuma
County: Yuma
State: Arizona
Other Locale Information

The US Army Garrison Yuma Proving Ground (YPG) is located in the southwestern portion of Arizona and is bordered on the west by the Colorado River. The installation is located in Yuma County and in a very remote portion of La Paz County; the nearest major population center, the city of Yuma, is approximately 25 miles to the south-southwest. The population of Yuma is approximately 93,064 (2010 Census). At about 830,000 acres (roughly 1,300 square miles), YPG is one of the Department of Defense's (DoD) largest installations. That is slightly larger than the state of Rhode Island. The predominant use of adjacent lands is US Department of the Interior restricted use, withdrawn lands, and the Kofa Wildlife Refuge.

Installation Mission

The mission of the US Army Garrison YPG is to conduct tests on medium and long-range artillery, aircraft target acquisition equipment and armament, armored and wheeled vehicles, a variety of munitions, and personnel and supply parachute systems. These testing programs are conducted for all US military services, friendly foreign nations, and private industry. The YPG is a general purpose facility with over 50 years of experience testing weapon systems of all types and sizes in a joint environment.

The YPG is also the Army's center for desert natural environment testing, the management of cold weather testing at the Cold Regions Test Center, Alaska, and tropic testing at the Tropic Test Center in various locations. The YPG is one of 22 major test ranges that comprise the DoD major range test facility base.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

US Army Garrison YPG

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region IX
State	Arizona Department of Environmental Quality (ADEQ), Federal Facilities Unit

National Priorities List (NPL) Status

YUMA PROVING GROUND is not on the NPL

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 201006

Installation Information

Installation Program Summaries

IRP

Primary Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Explosives, Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

MMRP

Primary Contaminants of Concern: Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Affected Media of Concern: Soil

CR

Primary Contaminants of Concern: Metals, Other (No contaminants), Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Complete	201010	201209	2012
Planned	201510	201709	2017

Last Completed 5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
DD 5 YPG 11	YPG-11
Fuel Bladder Test Site	YPG-10

Results No issues have been identified for the IRP sites YOG-10 and YPG-11 that would currently on in the futuer prevent the respective remedies at these sites from being protective of human health and the environment.

Actions Consistent with the USEPA guidance, recommendation have been made that pertain to groundwater monitoring activites and security.

YPG-10
Install additional fencing to secure monitoring wells at the site
YPG-11 is currently inder RD/RA phase.

Plans Contract action is ongoing for fence install at YPG-10.

Contract plan on capping YPG-11 spring 2013

Recommendations and Implementation Plans:

Land Use Control (LUC) Summary

LUC Title: LUC for DD 1 YPG 01

Site(s): YPG-01

ROD/DD Title: DD 1 YPG 01

Location of LUC

To be determined at perimeter of building footprint.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Notations in Master Plan

Date in Place: 200609

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 201008

LUC Enforcement: Other

Contaminants: VOC

Additional Information

Installation will seek concurrence on a DD with no land restrictions. Supplemental investigation revealed no contamanination at the site. MWs water samples were below RLS.

LUC Title: LUC for DD 3 YPG 31 and Y

Site(s): YPG-31, YPG-32

ROD/DD Title: DD 3 YPG 31 and YPG 32

Location of LUC

At fencelines of each SWMU

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Fences, Signs

Types of Institutional Controls: Dig Permits, Restrictions on land use

Date in Place: 200509

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200807

LUC Enforcement: Markers, Other

Contaminants: Unexploded Ordnance(UXO)

Additional Information

YPG-31 will need additional investigations of the pad and unopen buildings located on site. Both actions are not covered under the current PBA.

YPG-32 installation is working with the ADEQ in an interim action for the site (capping with positive drainage) until future technoloy allows for subsurface soil samples. Site will continue with groundwater monitoring.

Land Use Control (LUC) Summary

LUC Title: LUC for DD 5YPG 11

Site(s): YPG-11

ROD/DD Title: DD 5 YPG 11

Location of LUC

South south east corner of the former pesticide mix/storage building T-430.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Fences

Types of Institutional Controls: Dig Permits, Notations in Master Plan

Date in Place: 200609

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 201008

LUC Enforcement: Other

Contaminants: PESTICIDES

Additional Information

DD was signed by all parties August 2010. The site will be covered with asphalt and annotated in the Master Plan as part of the installation's LUCs.

LUC Title: LUC for DD 6 YPG 37

Site(s): YPG-37

ROD/DD Title: DD 6 YPG 37

Location of LUC

At perimeter of YPG 37

Land Use Restriction: Landfill restriction - Restrict access to the site, Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Notations in Master Plan, Restrictions on land use

Date in Place: 200609

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 201008

LUC Enforcement: Other

Contaminants: Unexploded Ordnance(UXO)

Additional Information

Site is not on current PBA will be addressed with future contract.

LUC Title: LUC for DD 7 YPG 45

Land Use Control (LUC) Summary

Site(s): YPG-45

ROD/DD Title: DD 7 YPG 45

Location of LUC

YPG 45 Building footprint and location of UST containing heating oil.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: None

Types of Institutional Controls: Dig Permits, Restrictions on land use

Date in Place: 200609

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Installation

Record of LUC: Master Plan or Equivalent

Documentation Date: 200807

LUC Enforcement: Other

Contaminants: PAH

Additional Information

Installation will seek ADEQ concurrence on a DD with no land use restictions. MWs and soil samples were below residential levels. Request decommisioning of the MWs currently on site.

LUC Title: LUC for YPG 10

Site(s): YPG-10

ROD/DD Title: Fuel Bladder Test Site

Location of LUC

Site will be enclosed with a fence. Outlying wells will be remarked and painted.

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Fences, Markers, Signs

Types of Institutional Controls: Construction Permit, Dig Permits, Notations in Master Plan, Restrictions on land use

Date in Place: 200510

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Other Army Entity

Record of LUC: Master Plan or Equivalent

Documentation Date: 200807

LUC Enforcement: Annual Inspections, 5 Year Reviews, Markers

Contaminants: PETROLEUM HYDROCARBON

Additional Information

Current PBA contractor will conduct duplicate soil borings in the remaining hot spot the SVE was shutdown in 2011.

LUC Title: LUCs for 7 SWMUs

Site(s): YPG-13B, YPG-13C, YPG-13D, YPG-13E, YPG-23, YPG-25, YPG-26

ROD/DD Title: DD 8 LUC Remedy for 7 SWMUs

Land Use Control (LUC) Summary

Location of LUC

Existing fencelines of the seven SWMUs

Land Use Restriction: Restrict land use - No residential use

Types of Engineering Controls: Fences, Markers

Types of Institutional Controls: Dig Permits, Restrictions on land use

Date in Place: 200402

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: Other Army Entity

Record of LUC: Master Plan or Equivalent

Documentation Date: N/A

LUC Enforcement: Annual Inspections, 5 Year Reviews, Markers

Contaminants: INORGANICS, METALS, PAH, PESTICIDES, PETROLEUM HYDROCARBON, VOC

Additional Information

All sites were closed NFA.

Cleanup Program Summary

Installation Historic Activity

The Army Ordnance Corps first established the Yuma Test Station in 1952 to test munitions. In 1961 it was transferred to the US Army Test and Evaluation Command and its name was changed to US Army Garrison YPG. Its mission was expanded to testing all types of military materiel and it has been in continual operation ever since. The primary focus of the testing is covered by five major commodity areas:

- aircraft armament,
- air delivery,
- track and wheeled vehicles,
- munitions and weapons, and
- environmental testing.

The major tenant activity includes the First Special Warfare Training Group (Airborne) Free Fall School, which relocated there in 1995.

In fiscal year (FY)06 groundwater monitoring was continued at five sites: YPG-01, YPG-10, YPG-31, YPG-32, and YPG-45. Using prior year funds, soil vapor extraction (SVE) wells were installed at YPG-10 and two internal combustion engines (ICE) were purchased (one ICE was refurbished for the SVE system). A remedial design (RD)/RA document, required by the ADEQ as a companion document to the YPG-10 decision document (DD), was drafted and submitted for ADEQ review in April 2006 and comments were received in September. The US Army Garrison YPG currently submits quarterly operations and maintenance reports for the SVE system to the ADEQ. The SVE system is operational February to September.

For the remaining sites, the YPG drafted a site-wide DD describing the sites and committing to groundwater monitoring and LUC monitoring as appropriate. The ADEQ requested that the YPG break sites out of the site-wide document and draft multiple DDs as follows:

DD 1	YPG-01 Chemical Laboratory at Building 2500
DD 2	YPG-03 (Building 2060) no further action (NFA)and YPG-13f (Building 3021) NFA
DD 3	YPG-31 West Environmental Test Area and; YPG-32 Former Waste Disposal Area
DD 4	YPG-02 Removed Holding Tank (Building 2060)
DD 5	YPG-11 Former Pesticide Mix/Storage Building
DD 6	YPG-37 77th Explosive Ordnance Disposal Site
DD 7	YPG-45 Building 506
DD 8	YPG-13b Wash Pad 1 (south)-Castle Dome YPG-13c Wash Pad 2 (north)-Castle Dome YPG-13d Waste Basin-Castle Dome YPG-13e Septic Tank Leach Field-Kofa YPG-23 Washrack Lagoon-Kofa YPG-25 Septic Tank Leach Field (north)-Castle Dome and YPG-26 Septic Tank Leach Field (south)-Castle Dome

Finally, using prior year funds, a fence was installed at YPG-32.

In September 2007, a performance-based acquisition (PBA) contract was awarded. Two NFA DDs, three DDs with LUCs and groundwater monitoring, and three with LUCs only were submitted to the state in mid-year 2007. An agreement was obtained from ADEQ to prepare a final DD that integrated the SVE system into a final DD. On Dec. 9, 2004 all parties signed a DD for subsurface and vadose zone. The SVE wells and equipment at YPG-10 were purchased and installed with operations beginning in FY07. Groundwater monitoring at YPG-01, YPG-31, YPG-32, and YPG-45 is subjected to approval of supplemental work plan by the ADEQ. The ADEQ commented on the DDs and the YPG provided responses to the comments. A DD for YPG-11 was approved on Aug. 8, 2010. State approval of the additional DDs is expected by 2013.

Installation Program Cleanup Progress

IRP

Prior Year Progress: An asphalt layer will be installed fall 2013 (YPG-11). Parsons recommends site closure/well decommisioning at YPG-01 (ADEQ approved 8/2013) and -45(lack of impact on GW). LTM will continue at YPG-31 and -32, due to low concentrations of ABP in soil and groundwater samples collected at YPG-31. Soil samples were not taken at YPG-32 due to safety concerns. A topographic

survey was completed for future soil cover design. The contractor recommends additional intrusive sampling at both sites.

Future Plan of Action: Long-term management (LTM) at YPG-31,-32, and -45 will occur upon regulatory concurrence with the DD. Upon regulatory concurrence with the DD, YPG-45 will be capped and the wells will be removed. The wells also will be removed from YPG-01. The SVE system at YPG-10 will continue to be operated until state soil remediation levels (SRLs) are met.

MMRP

Prior Year Progress: A draft final remedial investigation (RI) report was completed in 2009 and submitted to ADEQ for comment. The RI recommeded reducing the size of the RI from the current 625 to 240 acres surrounding Easter Services Hill. RI report was finalized by the installation and the state in August 2011. Site is currently under a non-time critical removal on 48 acres surrounding Easter Services Hill. The NTCRA was completed December 2012.

Future Plan of Action: Additional work on the site will be funded under future PBA. Current PBA ends December 2014.

CR

Prior Year Progress: The leaking underground storage tank (LUST) sites are in LTM with ongoing groundwater monitoring under the PBA. Work on the remaining compliance restoration (CR) sites (inactive landfills) will continue through FY14. RAP for YPG-28 was approved by ADEQ.

Future Plan of Action: Closure reports for inactive sites will be submitted, with a goal of minimal remediation and closure requirements. Based on landfill geophysical investigations a path forward will be determined. Preliminary discussions with the ADEQ indicate minimum closure requirements will consist of capping. All sites are included in the PBA.

YUMA PROVING GROUND

Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 43/37

Installation Site Types with Future and/or Underway Phases

2 Chemical Disposal
(YPG-31, YPG-32)
1 Disposal Pit/Dry Well
(YPG-01)
1 Pesticide Shop
(YPG-11)
1 Spill Site Area
(YPG-10)
1 Underground Storage Tank
(YPG-45)

Most Widespread Contaminants of Concern

Chemical weapon munitions (CWM)/Chemical agent, Explosives, Metals, Pesticides, Petroleum, Oil and Lubricants (POL), Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
YPG-38	LEAD ARSENATE SITE	FRA	WASTE REMOVAL - SOILS	1993
YPG-45	BUILDING 506 UST FUEL RELEASE	IRA	CAPPING	1993
YPG-10	FUEL BLADDER TEST SITE	IRA	SOIL VAPOR EXTRACTION	2004
YPG-11	FORMER PESTICIDE MIX/STORAGE BLDG T-430	FRA	INSTITUTIONAL CONTROLS	2004
YPG-13B	WashPad 1 Castle Dome Heliport	FRA	INSTITUTIONAL CONTROLS	2004
YPG-13C	Washpad 2 North Castle DomeHeliport	FRA	INSTITUTIONAL CONTROLS	2004
YPG-13D	WASTE BASIN AT CASTLE DOME HELIPORT	FRA	INSTITUTIONAL CONTROLS	2004
YPG-13E	SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490	FRA	INSTITUTIONAL CONTROLS	2004
YPG-23	WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490	FRA	INSTITUTIONAL CONTROLS	2004
YPG-25	SEPTIC TANK LEACHFIELD (NORTH) AT CDH	FRA	INSTITUTIONAL CONTROLS	2004
YPG-26	SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH	FRA	INSTITUTIONAL CONTROLS	2004
YPG-10	FUEL BLADDER TEST SITE	FRA	SOIL VAPOR EXTRACTION	2005
YPG-13F	SEPTIC TANK LEACHFIELD BLDG 3021 LAAF	FRA	INSTITUTIONAL CONTROLS	2005
YPG-37	77TH EXPLOSIVE ORDNANCE DEMOLITION AREA	FRA	INSTITUTIONAL CONTROLS	2005
YPG-45	BUILDING 506 UST FUEL RELEASE	FRA	INSTITUTIONAL CONTROLS	2005

IRP Summary

Duration of IRP

Date of IRP Inception: 197810

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201709/201709

Date of IRP completion including Long Term Management (LTM): 204509

IRP Contamination Assessment

Contamination Assessment Overview

A number of regulatory agencies (ADEQ, USEPA Region IX) and US Army agencies [US Army Environmental Hygiene Agency (USAEHA), US Army Toxic and Hazardous Materials Agency (USATHAMA)] have identified potential release sites from past practices at YPG. In 1978 the USATHAMA identified 16 potential release sites and in 1988, identified 62 more potential release sites. [These are referred to in the 1988 USAEHA report as solid waste management units (SWMUs)]. As a result of the USATHAMA and USAEHA evaluations, investigation and cleanup of selected SWMUs was conducted. In 1993 the Installation Restoration Program (IRP) was established at YPG.

The YPG has 42 sites listed in the AEDB-R. These sites include industrial wastewater surface impoundments, sanitary and construction debris landfills, leach fields, storage areas, fire training sites, and ordnance treatment sites. Five sites require funding for remedial action-(operation) [RA(O)] or LTM involving groundwater monitoring and remediation system operations and LUC measures. Eight additional sites will be addressed under an existing site-wide LUC system.

In late January 1997, the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) conducted relative risk site evaluations at 19 previously unevaluated AEDB-R sites. Fifteen sites were scored as low relative risk, three sites were scored as medium relative risk, and one was identified as NFA under the IRP. A number of sites were not sampled because of presumed risks associated with chemical warfare agents (CWAs) and/or ordnance and explosives.

The primary contaminants of concern (COC) at YPG are POL and heavy metals. At the YPG, the transportation method with greatest potential to cause the conveyance of contaminants off-site is the groundwater resource. The RI plans and actions have been initiated for this risk. The sites of environmental concern involving groundwater are YPG-01, YPG-10, YPG-31, YPG-32, and YPG-45.

The Former Pesticide Mix/Storage Building T-430 (YPG-11) was found to have slightly elevated pesticide concentrations and seven sites (YPG-13b, YPG-13c, YPG-13d, YPG-23, YPG-13e, YPG-25, and YPG-26) were found to have slightly elevated arsenic concentrations in comparison to site background levels, between 1.2 and 1.8 times higher than the human health screening level; however, because of the conservatively safe default assumption of 100 percent bioavailability and the industrial use scenarios at YPG, the magnitude of the arsenic exceedances is insufficient to warrant further analysis in a baseline assessment of arsenic risks to human health at these sites. Left implicit in the RI report is YPG's position that the slight exceedances of the arsenic state regulatory limit do not warrant any further action other than LUCs. Arsenic exceedances at these sites should be considered in light of the uncertainties inherent in current risk assessment approaches and the frequently higher cleanup levels for arsenic in soil used at other Superfund sites. Use of more realistic exposure frequencies (rather than the default 350 days per year exposure frequency) would likely result in seven sites not requiring further action. Furthermore, use of a more realistic bioavailability (rather than the 100 percent bioavailability default) would result in seven sites not requiring further action.

At YPG-10 a DD was approved which documents a presumptive response strategy for source control (in this case, contamination present in the vadose zone) and thus the indirect improvement of groundwater quality. The focused feasibility study (FFS) advocates implementing groundwater remediation in a phased approach, with information gained from earlier phases used to refine subsequent investigations, objectives or actions. The strategy outlined for the Fuel Bladder Test Site begins with an initial source removal phase using SVE technology.

In fall 1997, based upon the potential risk to human health, RI activities were initiated for three sites used to test and dispose of CWAs: YPG-01 - Old Chemical Laboratory (Building S-2500), YPG-31 - West Environmental Test Area, and YPG-32 - Former Waste Disposal Area. Because of the presumed risk to site workers, intrusive sampling has not occurred and is not planned at these sites. In the past, CWA degradation compounds have been detected at YPG-31 in passive soil gas points. Monitoring wells were installed at two of the sites and were sampled as part of the IRP. A water supply located downgradient of YPG-31 was sampled. The CWA degradation compounds were detected in one well from one round of samples at YPG-01, but not in a duplicate sample from the same well. The CWA degradation compounds were not detected in any well at YPG-01 in the subsequent two sampling episodes in 2001. Furthermore, no CWA degradation compounds were detected in any of the four monitoring wells in 13 subsequent sampling episodes through 2005. Analytical results from the 2012 supplemental investigation of YPG-01 determine that no further action was required at the site. The ADEQ concurred and the wells will be removed spring 2013. The CWA degradation compounds have not been detected from groundwater monitoring wells installed at the Former Waste Disposal Area YPG-32. Based on the results of the supplemental investigation the RI/FS phase for this site was reopened in AEDB-R.

In 2005, methyl phosphonic acid (MPA) was detected in the groundwater samples collected from YPG-31 and YPG-32, but the

Contamination Assessment Overview

detections were at levels below the reporting limit, i.e., they were estimated concentrations. Further investigation by Argonne's quality assurance officer during an annual laboratory audit found that there is another compound with a similar retention time that can act as a surrogate for MPA at low concentrations. As MPA has not been detected in two subsequent sampling events, the detections in 2005 are believed to have been false positives. In 2006, all CWA samples were split between two different laboratories as an additional quality assurance check.

During a 2012 supplemental investigation conducted by Parsons, 26 surface soil samples were collected and one round of groundwater sampling were conducted at YPG-31. Trace estimated concentrations of MPA were detected in one of 26 samples. Trace estimated concentrations of perchlorate detected in six of 26 samples. There was an estimated concentration of MPA acid in MW1. Further remedial investigation is needed to determine if the soil has been impacted, remove surface debris and investigate munitions bunker. Due to safety concerns, soil samples were not collected at YPG-32.

The following list identifies the designations for the operable units (OUs):

OU to AEDB-R Conversion

OU 1
- YPG-10 Fuel Bladder Test Site
- YPG-43 Former Fire Training Pit
- YPG-45 Building 506 UST Fuel Release

OU 2
- YPG-01 Old Chemical Laboratory (Building S-2500)
- YPG-02

Cleanup Exit Strategy

The cleanup exit strategy for the YPG sites involves a combination of short-term remedies, LTM, and LUCs. The Fuel Bladder Test site (YPG-10) has an SVE system which has been in operation since 2007. Initially this ICE-based SVE system was to be operated until Arizona state soil cleanup levels for COC are achieved in vadose zone soil. However, the June 6, 2012 rebound test show extractable vapor concentrations of TVH have decreased to levels that render the ICE operations economically unfavorable and not sustainable. A work plan was develop to present the location of confirmation soil borings and outline and approach for determining if soil remediation levels have been meet and identify alternatives to the remedial approach. Groundwater monitering will be completed to show the effectiveness of natural attenuation as identified in the RD/RA. A total of 22 monitoring wells are available at the FBTS to monitor the water quality of the the surficial aquifer.

Sites YPG-01 and YPG-45 were closed out as NFA and all wells will be removed from the sites. The long-term strategy for YPG-31 and YPG-32 involves monitoring using LUCs. Per a request by the ADEQ in the November 2005 IAP meeting, one additional well was installed at YPG-31 and is monitored as part of the periodic monitoring effort. The strategy for the remaining sites involves LUC monitoring (signage,fencing,and Master planing annotation) including adherence to an existing YPG digging permit program.

IRP Previous Studies

	Title	Author	Date
1978			
	Installation Assessment	USATHAMA	MAY-1978
1988			
	Initial Installation Assessment Update	US Army Environmental Hygiene Agency	JUL-1988
	Interim Final Report Groundwater Contamination Survey No. 38-26-0882-89, Evaluation of Solid Waste Management Units, Yuma Proving Ground	US Army Environmental Hygiene Agency	AUG-1988
1993			
	Lead Arsenic Site Closure Report, 192 (YPG-38) Mobility Test Area and Laguna Air Field Lagoons, Environmental Baseline Study	US Army Environmental Hygiene Agency	SEP-1993
1994			
	POL Investigation Plan	Gutierrez-Palmenberg, Inc	APR-1994
	DPG Tech Escort Report, On Removal of Liquid Filled Vial from YPG-31	YPG	NOV-1994
1995			
	POL Site Quality Assurance/Quality Control QMIS Report	YPG	APR-1995
1997			
	Hazardous and Medical Waste Study No. 37-EF-5481-97 Relative Risk Site Evaluation, Yuma Proving Ground	US Army Center for Health Promotion and Preventive Medicine (USACHPPM)	JAN-1997
1998			
	Site Characterization Report for the POL Bladder Test Spill Site, US Army Yuma Proving Ground	The POL Bladder Test Spill Site, US Army Yuma Proving Ground, Gutierrez	FEB-1998
1999			
	Resource Conservation and Recovery Act (RCRA) Facility Assessment, US Army YPG Final Report	USEPA Region 9	APR-1999
	Draft Final Remedial Investigation Work Plan for Yuma Proving Ground	Argonne National Laboratory	MAY-1999
	Final Building 506 Investigation, Yuma Proving Ground	CDM Federal Services	JUL-1999
2000			
	Draft Final Community Involvement Plan (internal draft)	Argonne National Laboratory	APR-2000
	Remedial Investigation Sampling and Analysis Plan for Selected Sites at Yuma Proving Ground, Volume1: Field Sampling Plan and Volume 2: Quality Assurance Project Plan	Argonne National Laboratory	MAY-2000
	Fuel Bladder Test Site Soil Vapor Extraction Work Plan	Argonne National Laboratory	JUL-2000
	Draft Preliminary Risk Evaluation for Operable Units 3 and 4, Yuma Proving Ground	Argonne National Laboratory	AUG-2000
	Fuel Bladder Test Site Soil Vapor Extraction Report	Argonne National Laboratory	DEC-2000
	Remedial Investigation/Feasibility Study Work Plan for Yuma Proving Ground	Argonne National Laboratory	DEC-2000
2001			
	Action Memorandum Interim Remedial Action at the Fuel Bladder Test Site (YPG-10) at Yuma Proving	Argonne National Laboratory	MAR-2001

IRP Previous Studies

	Title	Author	Date
2001			
	Ground and LaPaz Counties; Approved by ADEQ		
	Work Plan for Sample Collection and Evaluation to Determine Natural Background Concentrations of Inorganic Constituents in Soils at Yuma Proving Ground	Argonne National Laboratory	OCT-2001
	Soil Vapor Extraction Pilot Test Building 506 Underground Storage Tank Site	Argonne National Laboratory	OCT-2001
	Release Assessment for Solid Waste Management Units at Yuma Proving Ground	Argonne National Laboratory	NOV-2001
2002			
	Draft Final Preliminary Environmental Investigation for the Chemical Toxic Laboratory, Western Environmental Test Area, and Chemical Toxic Waste Disposal Area, Yuma Proving Ground	Argonne National Laboratory	MAR-2002
	Background Concentrations of Inorganic Constituents in Soils at Yuma Proving Ground	Argonne National Laboratory	MAR-2002
	Remedial Investigation Report for Selected Sites at Yuma Proving Ground	Argonne National Laboratory	JUL-2002
2003			
	Focused Feasibility Study for Subsurface Soil and Groundwater at the Fuel Bladder Test Site, Yuma Proving Ground	Argonne National Laboratory	JAN-2003
	Draft (December 2002) and Final Work Plan for Laboratory and Field Feasibility Testing, In situ Ozone Treatment of Petroleum Hydrocarbons at Building 506 Underground Storage Tank Site	Argonne National Laboratory	FEB-2003
	Refinement of the Screening Risk Assessment for Selected Sites at Yuma Proving Ground	Argonne National Laboratory	FEB-2003
2004			
	Final Remedial Investigation Report for selected sites at Yuma Proving Ground	Argonne National Laboratory	MAR-2004
	FPU-05-140 Re: Approved Decision Document for Fuel Bladder Test Site	ADEQ	DEC-2004
2005			
	Final Focused Feasibility Study for Subsurface Soil and Groundwater at the Building 506 Site, Yuma Proving Ground, Arizona	Argonne National Laboratory	SEP-2005
2008			
	Recommendation to Abandon Two Wells and Modify the Groundwater Monitoring Plan for YPG-10 - Fuel Bladder Site, Yuma Proving Ground, Arizona	Parsons	MAR-2008
2010			
	Community Relations Plan (IRP, USAGYPG)	Parsons	SEP-2010
	FPU 11-119 Re: YPG, Final Decision Document Building 506 Underground Storage Tanks (YPG-45) US Army Garrison Yuma Proving Ground dated June 2010	ADEQ	DEC-2010
2011			
	Draft Final First Five-Year Review Report Selected IRP Sites	Parsons Infrastructure and Technology Group, Inc.	OCT-2011
	FPU 12-099 RE: YPG Draft Final First five-Year Review Report Selected IRP Sites, USAYPG dated	ADEQ	DEC-2011

IRP Previous Studies

	Title	Author	Date
2011			
	October 2011		
2012			
	Supplemental Investigation Activities Work Plan for USAGYPG: Further Investigation of YPG-01,31,32,and 45	Parsons	FEB-2012
	Final First Five-Year Review Report Selected Installation Restoration Program Sites	Parsons	MAR-2012
	Final First Five-Year Review Report Selected Installation Restoration Program Sites	Parsons	MAR-2012
	FPU12-135 Re: YPG, Supplemental Investigation Activities Work Plan for USAGYPG Further Investigation of YPG-01,-31,-32, and -45 dated February 2012	ADEQ	MAR-2012
	Supplemental Investigation Activities Work Plan for Further Investigation of YPG-01, 31, 32, and -45	Parsons	APR-2012
	Final Supplemental Investigation Report for Building 506 Underground storage Tanks (YPG-45)	Parsons	APR-2012
	Draft Final Supplemental Investigation Report for Building 506 Underground storage Tanks (YPG-45)	Parsons	SEP-2012
	Draft Final Supplemental Investigation Report for the Old Chemical Laboratory at Building 2500 (YPG-01)	Parsons	SEP-2012
	Draft Final Interim Remedial Action Completion Report Fuel Bladder Test Site (YPG-10) U.S. Army Garrison Yuma Proving Ground	Parsons	NOV-2012
	Draft Final Interim Remedial Action Completion Report Fuel Bladder Test Site (YPG-10)	Parsons	NOV-2012
2013			
	Final Supplemental Investigation Report for the Old Chemical Laboratory at Building 2500 (YPG-01)	Parsons	FEB-2013
	Draft Final Work Plan for Confirmation Soil Sampling at the Fuel Bladder Test Site (YPG-10)	Parsons	APR-2013

YUMA PROVING GROUND

Installation Restoration Program

Site Descriptions

Site ID: YPG-01
Site Name: OLD CHEMICAL LABORATORY (BLDG S-2500)
Alias: YPG-01

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	197810	197812
SI	198808	198808
RI/FS	199708	201109
LTM	201109	202109

RIP Date: N/A

RC Date: 201109

SITE DESCRIPTION

Building S-2500 is currently used as a soil processing laboratory. Based on a review of aerial photographs and installation blueprints, the building likely was constructed sometime after April 1954. A blueprint titled "Basic Information Maps, General Storm Drainage, Office of the Post Engineer, Yuma Test Station, 1958," labels building S-2500 as "Chem. Corps Desert Test Lab" within an area approximately 1,500 feet (ft) by 400 ft designated as "Chemical Test Team Area". Chemical agent detection kit challenge tests and agent purity analyses were conducted from the mid-1950s until 1969, within glove boxes and/or fume hoods within the laboratory. In 1969 chemical agent activity at the site stopped. Some wastes were disposed into what is referred to as a "leaching well for acid waste" in YPG Drawing No. 71-07-12 (revised Feb. 1, 1965). Reportedly, solid materials were transported to the former waste disposal area (YPG-32) (USAEHA, August 1988). No spills were reported in the archival documents reviewed.

A "leaching well" identified in archival blueprints could not be located using geophysical investigation techniques. The CWA degradation compounds were detected in passive soil gas monitors (Argonne National Laboratory, 1998). In January 2000, as part of the field sampling plan, additional passive soil gas monitors were deployed and CWA degradation compounds were detected at two of 26 locations.

Four monitoring wells have been installed as part of the RI activities. Benzene and toluene were detected in the sample collected from monitoring well (MW)1 at concentrations of 0.6 micrograms per liter (ug/L) and 0.9 ug/L, respectively. Bromoform and MPA, a CWA degradation compound, were also detected in MW 2, but not in a duplicate sample collected from the same well; however, in nine subsequent sampling episodes through 2003, CWA degradation compounds were not detected in any of the four MWs (Argonne, March 2004). LUCs were completed and included signage around the building. The site will continue to be used as a soil sample preparation laboratory and access to building S-2500 will be controlled.

In September 2007 a PBA contract was awarded and funded through 2017. The period of performance for the contract was reduced from 2017 to 2014.

A Supplemental Investigation Activities Work Plan was submitted to ADEQ February 2012 to conduct further investigation of YPG-01 to determine if there was a release of contaminants from the possible septic tank located in the southeast corner of building 2500. In order to determine if contaminants have impacted the underlying soil, soil samples were collected at 5 feet intervals to a depth of 20 feet below ground surface (bgs). Groundwater samples from the four monitoring wells were also collected to determine if contaminants have leached to the groundwater. The results of the soil and groundwater sampling will be used to determine of additional remediation efforts are needed at the site. Due to the small size of YPG-01 and lack of ecological habitat, remediation goals will not include screening for ecological receptors.

Analytical results from the 2012 supplemental investigation indicated only sporadic low levels of selected VOCS. Concentrations of COCs are below remediation goals. Groundwater sampling analytical results from the 2012 sampling event as well as previous groundwater investigations indicate that groundwater has not been impacted. A No Further Action Final Decision Document recommending the decommissioning and removal of the groundwater monitoring wells at the site was submitted to ADEQ May 2013. ADEQ concurred in a letter dated Aug. 22, 2013 (REF: FPU14-027). The installation requested the removal of the site from the Munitions Treatment Facility RCRA permit B in a modification request submitted to ADEQ July 2013.

Site ID: YPG-01
Site Name: OLD CHEMICAL LABORATORY (BLDG S-2500)
Alias: YPG-01

The period of performance for the contract was reduced from 2017 to 2014. A Supplemental Investigation Activities Work Plan was submitted to ADEQ February 2012 to conduct further investigation of YPG-01 to determine if there was a release of contaminants from the possible septic tank located in the southeast corner of building 2500. In order to determine if contaminants have impacted the underlying soil, soil samples were collected at 5 feet intervals to a depth of 20 feet below ground surface (bgs). Groundwater samples from the four monitoring wells were also collected to determine if contaminants have leached to the groundwater. The results of the soil and groundwater sampling will be used to determine of additional remediation efforts are needed at the site. Due to the small size of YPG-01 and lack of ecological habitat, remediation goals will not include screening for ecological receptors.

Analytical results from the 2012 supplemental investigation indicated only sporadic low levels of selected VOCS. Concentrations of COCs are below remediation goals. Groundwater sampling analytical results from the 2012 sampling event as well as previous groundwater investigations indicate that groundwater has not been impacted.

CLEANUP/EXIT STRATEGY

No further investigation activities are required at YPG-01. The MWs will be removed at part of the NFA closure.

Site ID: YPG-10
Site Name: FUEL BLADDER TEST SITE
Alias: YPG-10

STATUS

Regulatory Driver: CERCLA

RRSE: LOW

Contaminants of Concern: Metals, Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	199108	199201
SI	199208	199309
RI/FS	199404	200407
RD	200403	200509
IRA	199909	200403
RA(C)	200409	200509
RA(O)	200509	201409
LTM	201410	202609

RIP Date: 200509

RC Date: 201409

SITE DESCRIPTION

From the mid-1960s until about 1972, portable fuel bladders were tested at a site one-half mile east of the YPG Yuma Test Center. The site contains 12 pits. Historical records indicate that seven were bermed test pits and four were used as borrow areas during construction, but there was no information regarding the use of one pit (Pit 12). In addition to the pits, there are two depressions (termed the North Depression and the South Depression) where aboveground, steel fuel tanks supplied the fuel used for bladder testing. Large fuel bladders designed for field deployment were challenge tested within the bermed areas. The berms and aboveground storage tanks (AST), which are no longer present at the site, were positioned within a fenced area of approximately 30 acres. Spillage of greater than 250,000 gallons of leaded gasoline was documented during the period of test activity. The field sampling plan, associated investigation activities, and past investigations have confirmed the presence of benzene/xylene/toluene related compounds in the vadose zone and in groundwater (Argonne, 2004). In October 2001, consistent with the technical approach in the ADEQ-approved RI work plan and sampling analysis plan, a presumptive remedy of SVE was proposed to the ADEQ. An IRA that included operation of a dual engine SVE unit has been performed to determine design parameters for a full-scale ICE SVE system for YPG-10.

Risk refinement steps have identified a potential unacceptable risk to human health and ecological resources (Argonne, 2004). In 2003 an FFS was completed and submitted to ADEQ and in March 2004 an RI report was completed. An agreement was obtained from ADEQ to prepare a final DD that integrated the SVE system into a final DD. On Dec. 9, 2004 all parties signed a DD for subsurface and vadose zone. In March 2006 the RD/RA plan was submitted to and received concurrence from ADEQ.

An SVE system operated from June 2007 until September 2007 when it was temporarily shut down. In April 2008 the system was restarted and operated until December 2008. The system will be operated until the site soils meet SRLs and groundwater protection levels (GPLs). Groundwater monitoring will be completed to show the effectiveness of natural attenuation as identified in the RD/RA.

In September 2007, a PBA contract was awarded. The PBA funded the required RA(O)/LTM through 2017. The PBA also includes achieving RC for soil and groundwater.

The period of performance for the contract was reduced from 2017 to 2014. The SVE system resumed operations (start of 2009) until it was shut down at the end of 2011.

YPG-10 well sampling,
Once per year: OW wells 3, 5, 6, 7a, 8, 9, 10, 12, 14, 17, 18, 19, 20, 21, 22a, 23a, 24b
Twice per year: OW wells 2, 11, 13, 16
PW wells 2, 4, 5, 7
Total OW samples: 25

Site ID: YPG-10
Site Name: FUEL BLADDER TEST SITE
Alias: YPG-10

Total PW samples: 8
Total YPG-10 samples: 33

The contractor will conduct confirmation soil sampling at the site Spring 2013. Duplicate soil borings will be taken in the remaining hot spot to determine remaining contamination levels. A total of 28 soil samples will be collected from the 18 locations where soil samples previously exceeded remediation goals. Three locations were chosen because volatile hydrocarbon concentrations exceeded 5,000 parts per million (ppm) dring rebound testing.

CLEANUP/EXIT STRATEGY

As of December 2011, approximately 187,000 gallons of fuel have been volatized and treated at the FBTS. This total does not include the mass of fuel biodegraded as evidence by elevated CO2 and depressed oxygen concentrations. Results of the June 6, 2012 rebound test show extractable vapor concentrations of TVH have decreased to levels that render ICE operation economically unfavorable and not sustainable (consistently below 5,000ppm require 90 to 95 percent supplemental propane fuel). A work plan (conducted under Clin 2002BJ) was developed to present the location of confirmation soil borings and outline an approach for determining if soil remediation levels have been met and identify alternatives to the remedial approach. Groundwater monitoring will be completed to show the effectiveness of natural attenuation as identified in the RD/RA. A total of 22 monitoring wells are available at the FBTS to monitor the water quality of the surficial aquifer.

Site ID: YPG-11

Site Name: FORMER PESTICIDE MIX/STORAGE BLDG T-430

Alias: YPG-11

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Pesticides

Media of Concern: Soil

Phases	Start	End
PA	197810	197812
SI	197810	197812
RI/FS	199811	200409
RA(C)	200404	200409
LTM	200709	202109

RIP Date: N/A

RC Date: 200409

SITE DESCRIPTION

Building 430 functions as a storage building and is located within the YPG Public Works compound. Prior to 1980, the building was used to store a variety of bulk insecticides, herbicides, and associated chemical application equipment. As part of the FSP-related investigation activities, samples were collected on the edge of the building foundation and through the existing concrete floor. Eight pesticide compounds were detected in one or more soil samples collected at the site. Inorganics were detected at concentrations in excess of the Arizona regulatory limit of 10 milligrams/kilogram (mg/kg), but less than the groundwater protection limits. Pesticide detections are limited to samples collected from the east and south of building 430. There is no complete exposure route between contaminated areas of the site and the only receptors that have access to the site, the site workers. Dieldrin is elevated in soil beneath the building, thus limiting exposure to human or ecological receptors. Based upon the RI results (Argonne, July 2002) and the risk refinement step, YPG-11 does not represent a risk to ecological resources (Argonne, February 2003).

In September 2007 a PBA contract was awarded. The PBA funded finalization of the DD, completion of an RD, and performance of required RA(O)/LTM through 2017. On Aug. 8, 2010 all parties signed a DD for asphalt pavement and LUCs.

The period of performance for the contract was reduce from 2017 to 2014. The site will receive an asphalt cover layer spring 2013.

CLEANUP/EXIT STRATEGY

Enforcement of LUCs will be performed for a period to be determined by a DD.

Site ID: YPG-31
Site Name: WEST ENVIRONMENTAL TEST AREA
Alias: YPG-31

STATUS

Regulatory Driver: CERCLA

RRSE: NOT EVALUATED

Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Explosives, Metals, Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	197810	197812
SI	198808	198808
RI/FS	199708	201409
LTM	201410	204309

RIP Date: N/A

RC Date: 201409

SITE DESCRIPTION

This site is located 2.3 miles north of the Phillips Drop Zone on the Cibola Testing Range. It is enclosed by an eight-foot tall chain-link fence and covers an area of 3,000 feet by 2,100 feet. From the 1950s until 1969 environmental testing of CWA and munitions and assorted military material was conducted at this location. In addition, a single disposal operation occurred at the termination of CWA testing.

An historical record review, an aerial photographic review, and an investigation using geophysics and soil gas sampling techniques were conducted in two areas where CWA testing and the disposal operation occurred in the past. The CWA degradation compounds were detected in soil gas samples collected from what are inferred to be areas used for the one-time disposal of equipment used for CWA related tests (Argonne, March 2004). This inference is based upon geophysics and aerial photographic interpretation. Detections of VOCs were found in soil gas samples collected from the northern section of the site. The LUCs were completed which included signage around the building and the existing engineering controls (fence) will continue to be maintained.

In September 2007 a PBA contract was awarded. The PBA is funded to finalize the DD and perform required LTM through 2014. A Supplemental Investigation Activities Work Plan to conduct further investigation at the site was to the ADEQ in February 2012. Surface soil sampling activities conducted during spring 2012 at YPG-31 consisted of the collection of one surface soil sample from each of the 22 hard stands (WETA-SS001 through WETA-SS022) and four sediment samples from the dry drainages that exit the west side of the site (WETA-DW-SS001 through WETA-DW-SS004).

One round of groundwater sampling was conducted at YPG-31 in July 2012. Groundwater samples were collected from monitoring well WETA-MW1 and Production Well V. Groundwater samples were analyzed for VOCs, Agent Breakdown Product (ABPs), explosives, and perchlorate. Analytical results of surface soil sampling show an estimated trace concentration of MPA (0.032 mg/kg) in the dry wash sample WETA-DW-SS001. Estimated trace concentrations of perchlorate were detected at WETA-SS003 (0.00056 mg/kg), WETA-SS004 (0.00041 mg/kg), WETA-SS006 (0.0022 mg/kg), and WETA-SS0017 (0.0015 mg/kg). The field duplicate for WETA-SS006 also contained an estimated trace concentration of perchlorate (0.0034 mg/kg). No VOCs were detected in the subsurface soils at the site. Groundwater analytical results show an estimated trace concentration of MPA (50 µg/L) in monitoring well WETA-MW1. Perchlorate was also detected in WETA-MW1 (1.1 µg/L) and WETA-PWV (0.87 µg/L) and the field duplicate for WETA-MW1 (1.2 µg/L). No VOCs were detected in the groundwater at YPG-31. The contractor recommendations for the site resulted in the RI/FS phase for site been reopened in AEDB-R. This was due in part to the data cap found during the investigation regarding COCs.

The period of performance for the contract was reduced from 2017 to 2014. A Supplemental Investigation Activities Work Plan was submitted to ADEQ. February 2012 to conduct further investigation of YPG-31 to collect data that can be used to complete the DD. Specific activities to be performed at the site and their objectives consist of the following:

1. Conduct a visual survey of the site (including hard stand locations, buildings, and the suspect burial trench to document the condition of AOCs); and

2. Collect surface samples around the hard stands to evaluate if any releases may have occurred during the testing of munitions.

Site ID: YPG-31
Site Name: WEST ENVIRONMENTAL TEST AREA
Alias: YPG-31

Surface soil sampling activities conducted during Spring 2012 at YPG-31 consisted of the collection of one surface soil sample from each of the 22 hard stands (WETA-SS001 through WETA-SS022) and four sediment samples from the dry drainages that exit the west side of the site (WETA-DW-SS001 through WETA-DW-SS004). Tests were conducted at the WETA on a variety of materials that included distilled mustard, tear gas, assorted grenades, rockets, mines and burters. Surface soil sample locations were biased towards pad drainage or soil stained areas. Soil samples were analyzed for ABPs, explosives, and perchlorate. No soil samples were collected in the area of the suspected burial trench because of concern for human safety due to possible CWA. A total of 26 surface soil samples were collected. One round of groundwater sampling was conducted at YPG-31 in July 2012. Groundwater samples were collected from monitoring well WETA-MW1 and Production Well V. Groundwater samples were analyzed for VOCs, ABPs, explosives, and perchlorate.

Analytical results of surface soil sampling show an estimated trace concentration of MPA (0.032 mg/kg) in the dry wash sample WETA-DW-SS001. Estimated trace concentrations of perchlorate were detected at WETA-SS003 (0.00056 mg/kg), WETA-SS004 (0.00041 mg/kg), WETA-SS006 (0.0022 mg/kg), and WETA-SS0017 (0.0015 mg/kg). The field duplicate for WETA-SS006 also contained an estimated trace concentration of perchlorate (0.0034 mg/kg). No VOCs were detected in the subsurface soils at the site.

Groundwater analytical results show an estimated trace concentration of MPA (50 µg/L) in monitoring well WETA-MW1. Perchlorate was also detected in WETA-MW1 (1.1 µg/L) and WETA-PWV (0.87 µg/L) and the field duplicate for WETA-MW1 (1.2 µg/L). No VOCs were detected in the groundwater at YPG-31.

CLEANUP/EXIT STRATEGY

Further intrusive remedial investigation will be needed to determine if the soil has been impacted, remove the surface debris and investigate the muntions bunker post PBA. Current LUCs will remain in place.

Site ID: YPG-32
Site Name: FORMER WASTE DISPOSAL AREA
Alias: YPG-32

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Chemical weapon munitions (CWM)/Chemical agent, Explosives, Metals, Volatiles (VOC)

Media of Concern: Groundwater

Phases	Start	End
PA	197810	197812
SI	198808	198808
RI/FS	199708	201408
RD	201409	201410
RA(C)	201510	201709
LTM	201709	204509

RIP Date: N/A

RC Date: 201709

SITE DESCRIPTION

The Former Waste (chemical agent) Disposal Area site is located one-half mile north of the West Environmental Test Area site on the Cibola Testing Range. The site occupies about 4.7 acres and is surrounded by a six-foot chain-link fence, with three-strand barbed wire on top. It is currently administered under strict LUC procedures including physical controls, a fence and gate, and existing YPG dig permit requirements. It consists of a number of buried disposal pits used for material disposal. From the early-1950s until late-1969 the site was used for disposal of decontaminated chemical agent wastes from environmental and purity analysis testing, at the Old Chemical Laboratory (Building S-2500, YPG-01) and rocket-firing tubes used for chemical ammunition. The area and disposal pits, though judged by previous investigations to require NFA, required reevaluation. Three MWs have been installed. No CWA degradation compounds were detected in the wells for all sampling episodes from 2001 through 2005. The analytical results for Feb-March 2013 investigation activities have not been received. The LUCs were completed.

In September 2007, a PBA contract was awarded. The PBA was funded to finalize the DD and perform required LTM through 2014. A supplemental investigation recommends drill up to 30 soil borings to a depth of 10 feet bgs, collecting samples at 5-ft intervals. Soil samples will be analyzed for ABPs and explosives. Placing a non-compacted native soil cover over each of the ten filled burial pits located at the site. Creating a drainage swale for storm water control to reduce ponding of water at the site. The drainage swale will follow the natural runoff pattern, and will be constructed between the pits to direct runoff toward the southwest of YPG-32, away for the site. And conducting groundwater monitoring because contamination is left in place.

There are currently no plans to intrusively investigate the site or remove the wastes due to safety concerns. The PBA contractor recommendations for the site resulted in the RI/FS phase for site been reopened in AEDB-R. This was due in part to the data gap found during the investigation.

The period of performance for the contract was reduced from 2017 to 2014. A Supplemental Investigation Activities Work Plan was submitted to ADEQ February 2012 to conduct further investigation of YPG-32 to obtain site topographic and groundwater analytical data to substantiate remedial actions presented in the DD. There are currently no plans to intrusively investigate the site or remove the wastes due to safety concerns. To verify releases from the disposal trenches have not impacted groundwater, one round of groundwater sampling will be conducted at the site using the two groundwater monitoring wells located on the down gradient side of YPG-32. One round of groundwater sampling was conducted at YPG-32 in June 2012. Groundwater samples were collected from monitoring wells FWDA-MW1 and FQDA-MW2. Monitoring Well FWDA-MW3 could not be sampled at that time because the water level in the monitoring well was too low. Groundwater samples were sent to GCAL for VOC analysis and Test America for ABPs, explosives, and perchlorate analyses. The cooler containing groundwater samples for VOC analysis was misplaced by the courier during shipment, and the sample holding time expired before the cooler was located. Therefore, monitoring wells FWDA-MW1 and FQDA-MW2 were resampled for VOCs in July 2012. During July 2012 sampling, monitoring well FWDA-MW1 could not be sampled because the GFCI breaker for the pump continued tripping. It was determined that the pump was installed incorrectly, and the breaker was repaired. A round of groundwater sampling will be conducted in Febrauary 2013.

Site ID: YPG-32
Site Name: FORMER WASTE DISPOSAL AREA
Alias: YPG-32

CLEANUP/EXIT STRATEGY

The DD was revised to include soil cover and drainage improvement at the site. There are currently no plans to intrusively investigate the site or remove the wastes due to safety concerns. The contractor recommendations for the site resulted in the RI/FS phase for site being reopened in AEDB-R. This was due in part to the data gap found during the supplemental investigation. The LTM will be performed and soil cover will be maintained.

Site ID: YPG-45
Site Name: BUILDING 506 UST FUEL RELEASE
Alias: YPG-45

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Polycyclic Aromatic Hydrocarbons (PAH), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
PA	198903	198903
SI	198911	199105
RI/FS	198911	200509
IRA	199201	199211
RA(C)	200403	200509
LTM	200509	202109

RIP Date: N/A

RC Date: 200509

SITE DESCRIPTION

The Building 506 UST Fuel Release site is located at the Main Administrative Area (MMA). In 1989 leaking heating fuel USTs were replaced. In 1991 drilling and soil analysis were used to complete the RI. In 1992 an IRA was conducted including asphalt capping and monitoring instrumentation. In 1995, the YPG Department of Public Works removed the capping for the purpose of building and grounds beautification. Groundwater is approximately 50 feet bgs. In December 1998 lysimeters installed during 1992 were sampled and revealed VOCs and total petroleum hydrocarbons (TPH) just slightly above background concentrations.

In 2000 and 2003 soil vapor wells were installed and sampled. Soil samples have also been collected from the former location of the leaking UST (Argonne, 2004). Two PAHs and TPH have been identified as contaminants of potential concern. The groundwater at the site is not contaminated. There are no complete exposure routes to human or ecological receptors. The ADEQ requested the full evaluation of remedial alternatives for the site. These are described in the FFS for subsurface soil at Building 506, which was finalized in July 2005. A draft DD was prepared and state approval is anticipated in FY09.

In September 2007 a PBA contract was awarded. The PBA was funded to finalize the DD, perform an RD, and perform required LTM through 2017.

The period of performance for the contract was reduced from 2017 to 2014. A Supplemental Investigation Activities Work Plan was submitted to ADEQ February 2012 to conduct further investigation of YPG-45. Because the most recent soil sampling YPG-45 was conducted in March 2000, more recent data is needed to determine the affects of natural attenuation processes on reducing the concentrations of TPHs and PAHs. The objective of further sampling is to determine a baseline of the natural attenuation rate for the current contaminant concentrations at the site and to support decisions presented in the DD. During the 2012 supplemental investigation, three soil borings were drilled and soil samples collected at depths from 15 to 40 feet. Due to the small size of YPG-45 and lack of ecological habitat, remediation goals will not include screening for ecological receptors.

Analytical results of spring 2012 investigation activities at YPG-45 show VOCs and PAHs detected at low levels in each of the three soil borings. Analytical results indicate that no compounds exceed residential or non-residential soil remediation goals. TPHs were also detected in each of the three soil borings. Because there are no 2007 Arizona risk-based remeidation goals for TPHs, TPHs are not considered contaminants of concern (COCs).

CLEANUP/EXIT STRATEGY

The wells will be removed as part of the NFA closure.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
YPG-02	CHEM WASTE HOLDING TANK BLDG S-2060)	200309	DD awaiting signature
YPG-03	SEPTIC TANK LEACHFIELD BLDG. 2060	200309	DD awaiting Signature
YPG-04	PETROLEUM LABORATORY(BLDG S-2060)	198808	RCRA Facility Assessment, US YPG Final Report, USEPA Region 9, 1999-Apr
YPG-05	55 GAL POL STORAGE @ PETROLEUM LAB	198808	RCRA Facility Assessment, US YPG Final Report, USEPA Region 9, 1999-Apr
YPG-06	OB/OD NEW DEMO AREA-KOFA EAST	199703	This site is active and is addressed in the current RCRA Part B Permit Application/Not Eligible For Environmental Restoration, Army (ER,A) Funding
YPG-07	MOBILITY RANGE (GENERAL)	199703	Site is Active. Management Guidance for the Defense Environmental Restoration Program as amended/Not Eligible For ER,A Funding
YPG-08	RAD STORAGE @ X-RAY FACILITY(BLDG 3493)	198808	RCRA Facility Assessment, US YPG Final Report, USEPA Region 9, 1999-Apr
YPG-09	RAD STORAGE SITE(BUILDING 3557)	199006	This site is active and not eligible for IRP funding/Not Eligible For ER,A Funding
YPG-12	PESTICIDE MIX/STORE FACILITY(BLDG 416)	199703	RCRA Facility Assessment, US YPG Final Report, USEPA Region 9, 1999-Apr
YPG-13A	SEPTIC TANK LAGOON CASTLE DOME HELIPORT	200101	Site is Active- Management Guidance for the Defense Environmental Restoration Program as amended/Not Eligible For ER,A Funding
YPG-13B	WashPad 1 Castle Dome Heliport	200409	DD awaiting signature
YPG-13C	Washpad 2 North Castle DomeHeliport	200409	DD awaiting signature
YPG-13D	WASTE BASIN AT CASTLE DOME HELIPORT	200409	DD awaiting signature
YPG-13E	SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490	200409	DD awaiting signature
YPG-13F	SEPTIC TANK LEACHFIELD BLDG 3021 LAAF	200509	DD awaiting signature
YPG-15	RAW SEWAGE LAGOON SYSTEM - MAIN POST	199703	Site is active- Management Guidance for the Defense Environmental Restoration Program as amended/Not Eligible For ER,A Funding
YPG-20	LAGOON @ MOBILITY TEST AREA	199703	Site is active- Management Guidance for the Defense Environmental Restoration Program as amended/Not Eligible For ER,A Funding
YPG-21	IMHOFF TANK @ MOBILITY TEST AREA LAGOON	199703	Site is active- Management Guidance for the Defense Environmental Restoration Program as amended /Not Eligible For ER,A Funding
YPG-23	WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490	200409	DD awaiting signature
YPG-24	RAW SEWAGE LAGOONS @ KOFA RANGE	199703	Site is active- Management Guidance for the Defense Environmental Restoration Program as amended/Not Eligible For ER,A Funding
YPG-25	SEPTIC TANK LEACHFIELD (NORTH) AT CDH	200409	DD awaiting signature
YPG-26	SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH	200409	DD awaiting signature
YPG-27	LANDFILL 5KM S-SE OF MAINPOST	198808	This site was transferred to the Compliance-Related Cleanup

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
			Program/Not Eligible For ER,A Funding
YPG-28	LANDFILL 3KM EAST OF MAIN POST	198808	This site was transferred to the Compliance-Related Cleanup Program and site investigation was funded in FY2006./ Not Eligible For ER,A Funding
YPG-29	LANDFILL E OF RT95, 2KM W KOFA RANGE	198808	This site was transferred to the Compliance-Related Cleanup Program and site investigation was funded in FY2006 / Not Eligible For ER,A Funding
YPG-30	LANDFILL 4KM NW OF KOFA RANGE	199703	This site was transferred to the Compliance-Related Cleanup Program and site investigation was funded in FY2006 / Not Eligible For ER,A Funding
YPG-33	TEST SITE 8KM W RT95, 4.4KM SW CIBOLA RD	199703	There was no study performed on this site. The site is an inactive landfill./Not Eligible For ER,A Funding
YPG-34	TEST SITE NE OF CHEM AGENT DISPOSAL AREA	199703	This site is an active range./Not Eligible For ER,A Funding
YPG-35	OLD DEMO AREA(N BASE OF MUGGINS MTS)	199703	This site was transferred to the Compliance-Related Cleanup Program /Not Eligible For ER,A Funding
YPG-37	77TH EXPLOSIVE ORDNANCE DEMOLITION AREA	200509	DD awaiting signature
YPG-38	LEAD ARSENATE SITE	199403	Correspondence 12/4/1996 From P. Perry ADEQ to C. Botdorf, Re Meeting and Site Visit at YPG November 6, 1996.
YPG-39	KOFA RANGE(IMPACT AREA)	199703	This is an active range. Correspondence 12/4/1996 From P. Perry ADEQ to C. Botdorf, Re Meeting and Site Visit at YPG November 6, 1996.
YPG-40	PYROTECHNIC RANGE(IMPACT AREA)	199703	This site is an active range. Correspondence 12/4/1996 From P. Perry ADEQ to C. Botdorf, Re Meeting and Site Visit at YPG November 6, 1996. /Not Eligible For ER,A Funding
YPG-41	CIBOLA RANGE(IMPACT AREA)	199703	This is an active range. Management Guidance for the Defense Environmental Restoration Program as amended and Correspondence 12/4/1996 From P. Perry ADEQ to C. Botdorf, Re Meeting and Site Visit at YPG November 6, 1996 /Not Eligible For ER,A Funding
YPG-43	FORMER FIRE TRAINING PIT	199909	This site was closed under the Arizona Aquifer Protection Program. Correspondence, 8/19/1999 From Richard Herring to C. Botdorf, Re YPG Fire Training Facility Aquifer Protection Permit (APP) Application Completeness Review/Not Eligible For ER,A Funding
YPG-44	AMMUNITION DEFLAGRATION SITE	199703	Site is active- Management Guidance for the Defense Environmental Restoration Program as amended/Not Eligible For ER,A Funding
YPG-PBA	YPG-PBA	201005	

IRP Schedule

Date of IRP Inception: 197810

Past Phase Completion Milestones

1979

PA	(YPG-01 - OLD CHEMICAL LABORATORY (BLDG S-2500), YPG-02 - CHEM WASTE HOLDING TANK BLDG S-2060), YPG-03 - SEPTIC TANK LEACHFIELD BLDG. 2060, YPG-04 - PETROLEUM LABORATORY(BLDG S-2060), YPG-05 - 55 GAL POL STORAGE @ PETROLEUM LAB, YPG-07 - MOBILITY RANGE (GENERAL), YPG-08 - RAD STORAGE @ X-RAY FACILITY(BLDG 3493), YPG-11 - FORMER PESTICIDE MIX/STORAGE BLDG T-430, YPG-13A - SEPTIC TANK LAGOON CASTLE DOME HELIPORT, YPG-13B - WashPad 1 Castle Dome Heliport, YPG-13C - Washpad 2 North Castle DomeHeliport, YPG-13D - WASTE BASIN AT CASTLE DOME HELIPORT, YPG-13E - SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490, YPG-13F - SEPTIC TANK LEACHFIELD BLDG 3021 LAAF, YPG-15 - RAW SEWAGE LAGOON SYSTEM - MAIN POST, YPG-20 - LAGOON @ MOBILITY TEST AREA, YPG-21 - IMHOFF TANK @ MOBILITY TEST AREA LAGOON, YPG-23 - WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490, YPG-25 - SEPTIC TANK LEACHFIELD (NORTH) AT CDH, YPG-26 - SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH, YPG-27 - LANDFILL 5KM S-SE OF MAINPOST, YPG-28 - LANDFILL 3KM EAST OF MAIN POST, YPG-29 - LANDFILL E OF RT95, 2KM W KOFA RANGE, YPG-31 - WEST ENVIRONMENTAL TEST AREA, YPG-32 - FORMER WASTE DISPOSAL AREA, YPG-33 - TEST SITE 8KM W RT95, 4.4KM SW CIBOLA RD, YPG-34 - TEST SITE NE OF CHEM AGENT DISPOSAL AREA, YPG-37 - 77TH EXPLOSIVE ORDNANCE DEMOLITION AREA, YPG-38 - LEAD ARSENATE SITE, YPG-39 - KOFA RANGE(IMPACT AREA), YPG-40 - PYROTECHNIC RANGE(IMPACT AREA), YPG-41 - CIBOLA RANGE(IMPACT AREA), YPG-44 - AMMUNITION DEFLAGRATION SITE)
SI	(YPG-11 - FORMER PESTICIDE MIX/STORAGE BLDG T-430)
RFA	(YPG-06 - OB/OD NEW DEMO AREA-KOFA EAST, YPG-12 - PESTICIDE MIX/STORE FACILITY(BLDG 416), YPG-30 - LANDFILL 4KM NW OF KOFA RANGE, YPG-35 - OLD DEMO AREA(N BASE OF MUGGINS MTS))

1988

SI	(YPG-01 - OLD CHEMICAL LABORATORY (BLDG S-2500), YPG-02 - CHEM WASTE HOLDING TANK BLDG S-2060), YPG-03 - SEPTIC TANK LEACHFIELD BLDG. 2060, YPG-04 - PETROLEUM LABORATORY(BLDG S-2060), YPG-05 - 55 GAL POL STORAGE @ PETROLEUM LAB, YPG-07 - MOBILITY RANGE (GENERAL), YPG-08 - RAD STORAGE @ X-RAY FACILITY(BLDG 3493), YPG-09 - RAD STORAGE SITE(BUILDING 3557), YPG-13A - SEPTIC TANK LAGOON CASTLE DOME HELIPORT, YPG-13B - WashPad 1 Castle Dome Heliport, YPG-13C - Washpad 2 North Castle DomeHeliport, YPG-13D - WASTE BASIN AT CASTLE DOME HELIPORT, YPG-13E - SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490, YPG-13F - SEPTIC TANK LEACHFIELD BLDG 3021 LAAF, YPG-15 - RAW SEWAGE LAGOON SYSTEM - MAIN POST, YPG-20 - LAGOON @ MOBILITY TEST AREA, YPG-21 - IMHOFF TANK @ MOBILITY TEST AREA LAGOON, YPG-23 - WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490, YPG-24 - RAW SEWAGE LAGOONS @ KOFA RANGE, YPG-26 - SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH, YPG-27 - LANDFILL 5KM S-SE OF MAINPOST, YPG-28 - LANDFILL 3KM EAST OF MAIN POST, YPG-29 - LANDFILL E OF RT95, 2KM W KOFA RANGE, YPG-31 - WEST ENVIRONMENTAL TEST AREA, YPG-32 - FORMER WASTE DISPOSAL AREA, YPG-33 - TEST SITE 8KM W RT95, 4.4KM SW CIBOLA RD, YPG-34 - TEST SITE NE OF CHEM AGENT DISPOSAL AREA, YPG-37 - 77TH EXPLOSIVE ORDNANCE DEMOLITION AREA, YPG-38 - LEAD ARSENATE SITE, YPG-39 - KOFA RANGE(IMPACT AREA), YPG-40 - PYROTECHNIC RANGE(IMPACT AREA), YPG-41 - CIBOLA RANGE(IMPACT AREA), YPG-44 - AMMUNITION DEFLAGRATION SITE)
CS	(YPG-06 - OB/OD NEW DEMO AREA-KOFA EAST, YPG-12 - PESTICIDE MIX/STORE FACILITY(BLDG 416), YPG-30 - LANDFILL 4KM NW OF KOFA RANGE, YPG-35 - OLD DEMO AREA(N BASE OF MUGGINS MTS))
PA	(YPG-09 - RAD STORAGE SITE(BUILDING 3557), YPG-24 - RAW SEWAGE LAGOONS @ KOFA RANGE, YPG-43 - FORMER FIRE TRAINING PIT, YPG-PBA - YPG-PBA)

1989

SI	(YPG-25 - SEPTIC TANK LEACHFIELD (NORTH) AT CDH)
PA	(YPG-45 - BUILDING 506 UST FUEL RELEASE)

1991

SI	(YPG-45 - BUILDING 506 UST FUEL RELEASE)
RI/FS	(YPG-38 - LEAD ARSENATE SITE)

1992	
PA	(YPG-10 - FUEL BLADDER TEST SITE)
1993	
SI	(YPG-10 - FUEL BLADDER TEST SITE, YPG-43 - FORMER FIRE TRAINING PIT)
RA(C)	(YPG-38 - LEAD ARSENATE SITE)
IRA	(YPG-45 - BUILDING 506 UST FUEL RELEASE)
1997	
RFI/CMS	(YPG-35 - OLD DEMO AREA(N BASE OF MUGGINS MTS))
1999	
RI/FS	(YPG-43 - FORMER FIRE TRAINING PIT)
2001	
RI/FS	(YPG-13A - SEPTIC TANK LAGOON CASTLE DOME HELIPORT)
2003	
RI/FS	(YPG-02 - CHEM WASTE HOLDING TANK BLDG S-2060), YPG-03 - SEPTIC TANK LEACHFIELD BLDG. 2060)
2004	
IRA	(YPG-10 - FUEL BLADDER TEST SITE)
RI/FS	(YPG-10 - FUEL BLADDER TEST SITE, YPG-11 - FORMER PESTICIDE MIX/STORAGE BLDG T-430, YPG-13B - WashPad 1 Castle Dome Heliport, YPG-13C - Washpad 2 North Castle DomeHeliport, YPG-13D - WASTE BASIN AT CASTLE DOME HELIPORT, YPG-13E - SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490, YPG-13F - SEPTIC TANK LEACHFIELD BLDG 3021 LAAF, YPG-23 - WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490, YPG-25 - SEPTIC TANK LEACHFIELD (NORTH) AT CDH, YPG-26 - SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH)
RA(C)	(YPG-11 - FORMER PESTICIDE MIX/STORAGE BLDG T-430, YPG-13B - WashPad 1 Castle Dome Heliport, YPG-13C - Washpad 2 North Castle DomeHeliport, YPG-13D - WASTE BASIN AT CASTLE DOME HELIPORT, YPG-13E - SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490, YPG-23 - WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490, YPG-25 - SEPTIC TANK LEACHFIELD (NORTH) AT CDH, YPG-26 - SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH)
2005	
RD	(YPG-10 - FUEL BLADDER TEST SITE)
RI/FS	(YPG-37 - 77TH EXPLOSIVE ORDNANCE DEMOLITION AREA, YPG-45 - BUILDING 506 UST FUEL RELEASE)
RA(C)	(YPG-10 - FUEL BLADDER TEST SITE, YPG-13F - SEPTIC TANK LEACHFIELD BLDG 3021 LAAF, YPG-37 - 77TH EXPLOSIVE ORDNANCE DEMOLITION AREA, YPG-45 - BUILDING 506 UST FUEL RELEASE)
2010	
LTM	(YPG-PBA - YPG-PBA)
2011	
RI/FS	(YPG-01 - OLD CHEMICAL LABORATORY (BLDG S-2500))

Additional Past Phase Completion Milestones

2012 Supplemental Investigation Activities Work plan for U.S. Army Garrison Yuma Proving Ground Further Investigation of YPG-01, 31, 32, and -45.

2012 Draft Final Supplemental Investigation Report for the Old Chemical Laboratory at Building 2500 (YPG-01)

2012 Draft Final Supplemental Investigation Report for the Building 506 Underground Storage Tanks (YPG-45)

Projected Phase Completion Milestones

See attached schedule

IRP Schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
YPG-13B	WashPad 1 Castle Dome Heliport	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-13D	WASTE BASIN AT CASTLE DOME HELIPORT	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-25	SEPTIC TANK LEACHFIELD (NORTH) AT CDH	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-23	WASHRACK/LAGOON (WEST) AT KOFA BLDG 3490	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-26	SEPTIC TANK/LEACHFIELD (SOUTH) AT CDH	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-13E	SEPTIC TANK LEACHFIELD(E)KOFA BLDG 3490	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-13C	Washpad 2 North Castle DomeHeliport	DD 8 LUC Remedy for 7 SWMUs	20141231
YPG-45	BUILDING 506 UST FUEL RELEASE	DD 7 YPG 45	20171010
YPG-31	WEST ENVIRONMENTAL TEST AREA	DD 3 YPG 31 and YPG 32	20171217
YPG-32	FORMER WASTE DISPOSAL AREA	DD 3 YPG 31 and YPG 32	20171217
YPG-37	77TH EXPLOSIVE ORDNANCE DEMOLITION AREA	DD 6 YPG 37	20171017

Final RA(C) Completion Date: 201709

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of IRP at Installation (including LTM phase): 204509

YUMA PROVING GROUND IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
YPG-01	OLD CHEMICAL LABORATORY (BLDG S-2500)	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
YPG-10	FUEL BLADDER TEST SITE	RA(O)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
YPG-11	FORMER PESTICIDE MIX/STORAGE BLDG T-430	LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
YPG-31	WEST ENVIRONMENTAL TEST AREA	RI/FS						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
YPG-32	FORMER WASTE DISPOSAL AREA	RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	**SITE NAME**	**PHASE**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19+**
YPG-45	BUILDING 506 UST FUEL RELEASE	LTM						

YUMA PROVING GROUND

Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 2/1

Installation Site Types with Future and/or Underway Phases

1 Firing Range

(YPG-002-R-01)

Most Widespread Contaminants of Concern

Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern

Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
YPG-002-R-01	MORTAR IMPACT AREA	IRA	INSTITUTIONAL CONTROLS	2013

Duration of MMRP

Date of MMRP Inception 200201

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 202112/202112

Date of MMRP completion including Long Term Management (LTM): 202112

MMRP Contamination Assessment

Contamination Assessment Overview

The Former Mortar Impact Area consists of approximately 625 acres located in the southwestern portion of YPG. The northwestern portion of the area encompasses two additional range areas, including a pistol range and a former recreational skeet range. An additional suspected pistol range was identified during the visual survey performed during the site inspection (SI).

The area encompassed a portion of the current housing area (Ironwood housing) and undeveloped land. A photovoltaic solar power collection panel farm, an observatory, and an open storage area are also located within the boundaries. A nature trail and jogging trail traverse the eastern portion of this area.

Depth to groundwater within the area ranges from 30 to 40 feet bgs. The Colorado and Gila Rivers replenish the groundwater in the Yuma region, whereas precipitation and runoff are minor sources of groundwater recharge. The intermittent wash within the area is part of the drainage of the Colorado River, which is located approximately 2,500 feet east of the former mortar impact area and the Gila Gravity Main Canal is approximately 1,700 feet east of the former mortar impact area.

Based on visual observations and the geophysical and visual surveys, the density of MEC appears to have been greater in the central and eastern portions of the area. The MEC was not observed in the western portion of the site. The geophysical data indicate the likelihood of subsurface metallic debris, particularly near visible impact craters. The overall densities of the geophysically identified targets are low, but present in most of the area surveys, and it is likely that most of the targets are MEC related.

Trace amounts of explosives were detected in 22 of the 54 soil samples collected during the SI; however, all concentrations were below the ADEQ SRLs. The only constituents with concentrations above the screening criteria were arsenic and iron; however, these elevated concentrations are expected to be naturally occurring and not the result of military munitions used at the site.

The primary transport mechanisms identified during the SI include erosion and surface water runoff. Erosion could be a factor in exposing buried MEC. Surface water runoff could contribute to transporting and migrating potential MC contaminated soil to surface water bodies. Due to the arid climate and the fact that the potential contaminants have a relative low mobility for downward migration, subsurface and groundwater impacts are anticipated to be negligible.

During the SI phase conducted in FY05, the decision was made to combine the two Military Munitions Response Program (MMRP) sites, so in March 2005 YPG-001-R-01 was listed as closed and all MMRP issues will be addressed under YPG-002-R-01. The recommendation of the SI was to further evaluate the site with an RI to identify the nature and extent of the MEC in the area. The RI was completed by Parsons August 2011 and with recommendations to reduce the size of the MRA to the and approximately 240 acres area with potential MEC hazards. (No potential MEC or MD was found on the north and the northwest portion of the MRS). Additional recommendation was made to conduct a feasibility study to access possible response action alternatives for addressing the potential MEC that remained. A Military Munitions Removal Action performance based acquisition contract(W912DR-09-D-0006-DM02) was award to Weston Solutions, Inc. fourth quarter FY11 (Sept. 21, 2011) to remove munitions from approximately 65 acres of the site and install land use controls. The Area of Interest was later reduced to 48 acres.

An interim removal clean up action was conducted by Weston Solutions,Inc. at the site May 2012 to December 2012.

Clearance of munitions and munitions debris was performed in three main areas:

Easter Services Hill AOI was cleared of surface and subsurface munitions/munitions debris.

The Buffer Zone was cleared of surface and subsurface munitions/munitions debris.

A second Buffer Zone area was cleared of surface munitions/munitions debris.

The majority of clearance activities occurred from July 19 to August 30, 2012. Remaining anomalies were investigated and cleared along Barranca Road on December 6 and 7, 2012.

Upon completion of the removal action the cleared area was reopened for residential use.

MMRP Contamination Assessment

Cleanup Exit Strategy

Based on the results of the draft final RI report, the military munitions removal action, and subject to the availability of funding, a FS may be conducted on the remaining 192 acres not covered under the current military munitions removal action in the future. LUCs are currently in place for the remaining uncleared areas. LTM will be required.

MMRP Previous Studies

	Title	Author	Date
2002			
	Closed Transferred/Transferring Range Inventory	TetraTech	FEB-2002
2005			
	Site Inspection Report	Techlaw, Inc.	JUN-2005
2010			
	Draft Final Remedial Investigation Report for the Former Mortar Impact Area	Parsons	JUL-2010
2011			
	Final Remedial Investigation Report for the Former Mortar Impact Area	Parsons Infrastructure and Technology Group, Inc.	AUG-2011
	USAGYPG Response to ADEQ comments on Final Remedial Investigation Report for the Former Mortar Impact Area, YPG-002 Dated August 2011	Parsons Infrastructure and Technology Group, Inc.	NOV-2011
2012			
	Explosives Safety Submission Military Munitions Removal Action at USAGYPG Easter Services Hill Area of Interest Munitions Response Site YPG-002-R-01	Weston Solutions, Inc.	FEB-2012
	Draft Final Work Plan Military Muntions Removal Action at U.S. Army Garrison Yuma Proving Ground Munitions Response Site YPG-002-R-01	Weston Solutions, Inc.	MAY-2012
	Draft Final Engineering Evaluation/Cost Analysis (EE/CA) Land Use Controls	URS Group Inc.	OCT-2012
	Draft Final Non-Time Critical Removal Action Land Use Control Plan	URS Group Inc	NOV-2012
2013			
	Final Engineering Evaluation/Cost Analysis (EE/CA) Land Use Controls	URS Group Inc	JAN-2013

YUMA PROVING GROUND

Military Munitions Response Program

Site Descriptions

Site ID: YPG-002-R-01
Site Name: MORTAR IMPACT AREA
Alias: YPG 2-R-1

STATUS

Regulatory Driver: CERCLA

MRSPP Score: 03

Contaminants of Concern: Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA	200201	200305
SI	200309	200506
RI/FS	200801	201111
IRA	201009	201212
RA(C)	201409	202112

RIP Date: N/A

RC Date: 202112

SITE DESCRIPTION

The Mortar Impact Area consisting of approximately 625 acres is believed to have been used between 1942 and 1945 as part of the California-Arizona maneuver area, and may have been used after these dates. Two historic ranges were identified within the boundaries of the former mortar impact area: a recreational skeet range and a pistol range. According to certificates of clearance from 1950 and 1953, 60 millimeter (mm) high explosive (HE) mortars, 81mm HE light mortars, 75mm HE duds, 57mm shot, 3.5-inch rockets, rifle grenades, and hand grenades have been removed from the site.

The pistol range, located within the northwest portion of the former mortar impact area, consists of approximately 0.333 acre. Beginning in 1952, it was used for small arms target practice and qualification. The range operations were intermittently active from 1964 through 1977.

The recreational skeet range, covering 0.121 acre, was located in the north-central portion of the Mortar Impact Area, where a photovoltaic solar power collection panel farm currently lies. The skeet range was constructed in 1962 and operated until the 1970s.

In December 2004, an SI was conducted which included a limited geophysical and visual survey and collection of soil samples. The results were evaluated in the June 2005 final SI report.

An RI at the site to define the types and extent (spatial distribution) of munitions and soil contamination so that remedial alternatives could be evaluated and prioritized. Consistent with the results of the previous SI, the RI showed that the greatest concentrations of munitions-related debris were found on Easter Services Hill and lesser amounts in the area immediately surrounding it. This equates to an AOC of roughly 100 acres, with Easter Services Hill being the most likely to contain old munitions. During the RI, less than five percent of the Easter Services Hill was actually surveyed. The finding of a live artillery shell and multiple pieces of munitions debris (e.g. mortar tail fins) during a limited survey indicates the potential for additional hazardous munitions somewhere on Easter Services Hill and the surrounding area.

Due to the presence of potential MEC hazards, a feasibility study is recommended to assess possible response action alternatives for addressing potential MEC that might remain at the site.

No potential MEC or MD was found on the north and the northwest portion of the MRS and it is recommended that MRS boundary be redefined and these areas be removed from the MRS.

An interim removal action was conducted at the site (May 2012 to December 2012). This area was cleared of surface and subsurface munitions/munitions debris. Subsurface Geophysical surveying was conducted and was completed in two stages. Digital geophysical mapping were completed from June 11 to July 24, 2012, prior to the main phase of munitions clearance activities. A second mobilization occurred on Dec. 5, 2012, to reacquire geophysical anomalies along the temporary fence at Barranca Road prior to final munitions clearance. All digital geophysical data was reviewed by the USACE prior to use for inspection of anomalies and munitions clearance.

Site ID: YPG-002-R-01
Site Name: MORTAR IMPACT AREA
Alias: YPG 2-R-1

A total of 208 items of munitions debris were removed from the AOI and Buffer Zones. Two additional expended small arms blank rounds were recovered. A total of 494 items were investigated that consisted of archaeological or cultural debris or features. A total of approximately 86 pounds of Material Documented as Safe (MDAS) removed from USAYPG after inspection and certification to California Metal X, Inc. in Los Angeles, California.

A permanent fence surrounding the Easter Services Hill AOI was installed to restrict entry of unauthorized personnel into areas that had not been cleared of munitions. The Land-Use Control Fence was installed on multiple dates including July 24, Aug. 8 through 22, and Dec. 7 through 10, 2012.

Final inspection of the Land-Use Control Permanent Fence and Signage was performed by USACE and USAGYPG on Dec. 11, 2012.

A FS is recommended to assess possible response action alternatives for addressing potential MEC that might remain at the site.

CLEANUP/EXIT STRATEGY

Following state regulatory approval additional MEC removal may be conducted under a new PBA contract. Currently the installation has LUCs (signage and Master Plan restricted access notation) in place.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
YPG-001-R-01	MORTAR IMPACT AREA A	200506	During the SI phase conducted in FY05, it was decided to combine the two MMRP sites, so YPG-001-R-01 was listed as closed in March of 2005 and combined with YPG-002-R-01.

MMRP Schedule

Date of MMRP Inception 200201

Past Phase Completion Milestones

2003

PA (YPG-001-R-01 - MORTAR IMPACT AREA A, YPG-002-R-01 - MORTAR IMPACT AREA)

2005

SI (YPG-001-R-01 - MORTAR IMPACT AREA A, YPG-002-R-01 - MORTAR IMPACT AREA)

2012

RI/FS (YPG-002-R-01 - MORTAR IMPACT AREA)

Additional Past Phase Completion Milestones

2012 IRA YPG-002-R-01 Mortar Impact Area

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

To Be Determined

Final RA(C) Completion Date: 202112

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of MMRP at Installation (including LTM phase): 202112

YUMA PROVING GROUND MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
YPG-002-R-01	MORTAR IMPACT AREA	RA(C)						

YUMA PROVING GROUND

Army Defense Environmental Restoration Program
Compliance Restoration

CR Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 9/1

Installation Site Types with Future and/or Underway Phases

5 Landfill
(CCYPG-027, CCYPG-028, CCYPG-029, CCYPG-141, CCYPG-178)

1 Soil Contamination After Tank Removal
(CCYPG-151)

2 Underground Tank Farm
(CCYPG-165, CCYPG-204)

Most Widespread Contaminants of Concern

Metals, Other (No contaminants), Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
CCYPG-165	FUEL STATION #1 (UST 207 & 209)	FRA	NATURAL ATTENUATION	2006
CCYPG-204	YPG- 138 UST SITE REMED. AAFES GAS STATI	FRA	NATURAL ATTENUATION	2006

Duration of CR

Date of CR Inception: 199705

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201705/201705

Date of CR completion including Long Term Management (LTM): 204509

CR Contamination Assessment

Contamination Assessment Overview

A number of regulatory agencies (ADEQ, USEPA, Region 9), US Army agencies (USAEHA and USATHAMA), and contractors (Argonne National Laboratory) has identified potential sites from past practices at YPG. In 1978, USATHAMA identified 16 potential release sites. In 1988, USAEHA identified 62 potential release sites, referred to in the USAEHA report as SWMUs (USAEHA),1988). As a result of the USATHAMA and USAEHA evaluations, investigation and cleanup of selected SWMUs was conducted. The installation's Compliance-related Cleanup (CC) program was established at YPG in 2005.

The media with the greatest potential to cause the conveyance of contaminants off-site at YPG are surface water and groundwater. There are two LUST sites that are located within one-half mile of the drinking water production wells for the MAA of the installation. During FY10 several of these sites were transferred over to the compliance restoration program. CCYPY-143 was transferred during the spring datacall of FY12.

Cleanup Exit Strategy

Where possible, the cleanup strategy is to remove potential sources of contaminants that could be transported via groundwater or surface water interaction. These sites include CCYPG-151, CCYPG-165 and CCYPG-204. Furthermore, at inactive landfill sites CCYPG-27, -28, -29, -141, and -178 based on meetings with ADEQ RCRA section capping maybe required. CCYPG-143 was closed without restrictions. Groundwater monitoring may be required at selected sites. Reduction of the landfill footprints is anticipated through the investigation phase.

CR Previous Studies

	Title	Author	Date
1978			
	Installation Assessment	USATHAMA	JAN-1978
1988			
	Geohydrologic Study of the US Army Yuma Proving Ground with Particular Reference to the OB/OD Facility	ENTECH Engineers, Inc.	MAY-1988
	Initial Installation Assessment Update	US Army Environmental Hygiene Agency	JUL-1988
1994			
	Cultural Resources Inventory Survey of the Proposed test Vehicle access Roads to the Kofa Dust Course and GP 20 (CCYPG-29)	Northland Research, Inc	SEP-1994
1997			
	Hazardous and Medical Waste Study No. 37-EF-5481-97 Relative Risk Site Evaluation, US Army Yuma Proving Ground	US Army Center for Health Promotion and Preventive Medicine (USACHPPM	JAN-1997
1998			
	Site Characterization Report for the Army & Air Force Exchange Service (AAFES) Service Station Underground Storage Tanks, Main Administrative Area	Guiterrez-Palmenberg, Inc	NOV-1998
1999			
	RCRA Facility Assessment, US Army YPG Final Report	United States Environmental Protection Agency Region 9	APR-1999
	Draft Final Remedial Investigation Work Plan for US Army Yuma Proving Ground	Argonne National Laboratory	MAY-1999
2000			
	Remedial Action Summary Report North OB/OD Pad	Jason Associates Corp	JUN-2000
	Remedial Action Summary Report North Pad Open Burn/Open Detonation Pad	Jason Associates Corp	JUN-2000
2001			
	Site Characterization Report for AAFES Service Station, Main Administrative Area	Jason Associates Corp	JUN-2001
	Range Wide Environmental Impact Statement	Jason Associates Corp	AUG-2001
	Site Characterization Report 207/209 Underground Storage Tanks (USTs), Main Administrative Area	Jason Associates Corp	AUG-2001
	Work Plan for Sample Collection and Evaluation to Determine Natural Background Concentrations of Inorganic Constituents in Soils at US Army Yuma Proving Ground	Argonne National Laboratory	OCT-2001
	Release assessment for Solid Waste Management Units at US Army Garrison Yuma	Argonne National Laboratory	NOV-2001
2002			
	Background Concentrations of Inorganic Constituents in Soils at US Army Yuma Proving Ground	Argonne National Laboratory	MAR-2002
	Hazardous Waste Storage Facility Closure Report	Jason Associates Corp	JUL-2002
	Columbia Analytical Services Report YPG-44	Columbia Analytical Services	DEC-2002
	Sampling Event at Muggins Mountain OB/OD Site, US Army Yuma Proving Ground	Jason Associates Corp	DEC-2002
2003			

CR Previous Studies

	Title	Author	Date
2003			
	Sampling Event: Propellant Area at Muggins Mountain OB/OD Site, US Army Yuma Proving Ground	Jason Associates Corp	APR-2003
	Surface Clearance Procedure Muggins Mountain OB/OD Sites	Jason Associates Corp	APR-2003
	Site-specific Health and Safety Plan for the Muggins Mountain Characterization Project	Jason Associates Corp	JUN-2003
	Propellant Removal Procedure Muggins Mountain OB/OD Site	Jason Associates Corp	SEP-2003
	US Army Yuma Proving Ground Emergency Detonation Procedures	Jason Associates Corp	SEP-2003
	Closure Process Document Muggins Mountain OB/OD Sites	Jason Associates Corp	OCT-2003
	Site Characterization Plan OB/OD Area Inactive Units	Jason Associates Corp	OCT-2003
	Surface Clearance Procedure Muggins Mountain OB/OD Sites, Revision 2	Jason Associates Corp	OCT-2003
	YPG Muggins Mountain Site Drainage Report	James Davey and Associates	OCT-2003
2004			
	Historical Records Review Muggins Mountain Site	Jason Associates Corp	JAN-2004
	Site Delineation and Prioritization Report Muggins Mountain Site	Jason Associates Corp	JAN-2004
	Open Burn Open Detonation Facility RCRA Operating Permit Application (update)	Jason Associates Corp	SEP-2004
	Infiltration Study OB/OD Treatment Facility Kofa Firing Range	Southwest Ground-water Consultants, Inc.	OCT-2004
	Baseline Soils Investigation at the OB/OD Facility Report	Jason Associates Corp	NOV-2004
2005			
	Long Term Surface Soil Monitoring Plan OB/OD Treatment Facility	Jason Associates Corp	JAN-2005
	KOFA Ammunition Deflagration Test Facility Partial Closure Plan	Jason Associate Corp	MAR-2005
	Live Fire Crash Training Pit-LAAF APP 1011346 Closure Plan	Jason Associates Inc.	OCT-2005
2006			
	Site Characterization Report, Service Station 207/209	Jason Associates Inc. Corp	FEB-2006
	Site Characterization Report, AAFES Service Station	Jason Associates Corp	FEB-2006
	ADEQ Closure Approval (CCYPG-44)	ADEQ	JUN-2006
2007			
	Site Characterization Report (CCYPG-06A)	Jason Associate Corp	FEB-2007
	Work Plan screening Level Ecological Risk Assessment OB/OD Fac. (CCYPG-06A)	Jason Associates Corp	JUL-2007
	Work Plan Screening Level Ecological Risk Assessment Muggins Mountian (CCYPG-035A, B, and C)	Jason Associates Corp	JUL-2007
	EPA Comments, Work Plan ERA, Inactive OB/OD Units (CCYPG-06A)	USEPA	JUL-2007
	EPA Comments, Work Plan ERA, Muggins Mountain (CCYPG-035A,B, and C	USEPA	AUG-2007
	Closure Plan (CCYPG-06A)	Jason Associates Corp	DEC-2007

CR Previous Studies

	Title	Author	Date
2010			
	Groundwater Monitoring Plan for the Munitions Treatment Facility	Parsons Infrastructure and Technology Group, Inc.	SEP-2010
2011			
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-143	Parsons Infrastructure and Technology Group, Inc.	JUN-2011
	Final Decision Document YPG-13b-e,-23,-25, and -26	Parsons Infrastructure and Technology Group, Inc.	OCT-2011
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-29	Parsons Infrastructure and Technology Group, Inc.	NOV-2011
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-27	Parsons Infrastructure and Technology Group, Inc.	NOV-2011
	Final Decision Document Septic Tank/Leach Field Near Building 2060 (YPG-03) and Septic Tank/Leach Field Near Laguna Army Airfield and Building 3021 (YPG-13f) USAYPG	Parsons Infrastructure and Technology Group, Inc.	NOV-2011
	FPU 12-115 YPG, Final Decision Document for the Septic Tank/Leach Field Near Building 2060 (YPG-03) and Septic Tank/Leach Field Near Laguna Army Airfield and Building 3021 (YPG-13f)	ADEQ	DEC-2011
	FPU 12-115. YPG, Final Decision Document for the Septic Tank/Leach Field Near Building 2060(YPG-03) and Septic Tank/Leach Field Near Laguna Army Airfield and Building 3021 (YPG-13f)	ADEQ	DEC-2011
2012			
	RCRA Facility Investigation Report For Inactive Landfill YPG-141	Parsons Infrastructure and Technology Groupd, Inc.	JAN-2012
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-141	Parsons	FEB-2012
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-141	Parsons	FEB-2012
	REF: HWP-EX2514 RE: Acknowledgement of Completion of Corrective Action at Inactive Landfill YPG-143; U.SGYPG USEPA ID No. AZ5 213 820 991	ADEQ	MAR-2012
	Draft Final RCRA Facility Investigation Report Muggins Mountain Ob/OD Facility YPG-35a, b, and c	Parsons	MAY-2012
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-178	Parsons	JUN-2012
	Annual Groundwater Monitoring Report AAFES Service Station Lust File #0682.03 Facility ID#0-0005341	Parsons	JUN-2012
	Annual Groundwater Monitoring Report Service Station 207/209 Lust File #0682.02 Facility ID#0-005341	Parsons	JUN-2012
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-178	Parsons	JUN-2012
	Draft Final RCRA Facility Investigation Report For Inactive Landfill YPG-28	Parsons	AUG-2012
	Draft Final Supplemental Investigation Report For Building 506 Underground Storage Tanks (YPG-45)	Parsons	SEP-2012
	Draft Final Interim Remedial Action Completion Report Fuel Bladder Test Site (YPG-10)	Parsons	NOV-2012
2013			
	Final Closure Plan Inactive Hazardous Waste Treatment Units Kofa Open Burn/Open Detonation Facility Rev. 2	Parsons	FEB-2013

CR Previous Studies

2013

Title	Author	Date
Final Supplemental Investigation Report For The Old Chemical Laboratory at Building 2500 (YPG-01)	Parsons	FEB-2013
Final Remedial Action Plan For YPG-028	Parsons	FEB-2013
Final RCRA Facility Investigation Report For Inactive Landfill YPG-029	Parsons	MAR-2013
Final RCRA Facility Investigation Report For Inactive Landfill YPG-141	Parsons	MAR-2013
Draft Final Work Plan For Confirmation Soil Sampling at the Fuel Bladder Test Site (YPG-10)	Parsons	APR-2013
Draft Final Corrective Measures Study Work Plan For Inactive Landfills YPG-29 and YPG-141	Parsons	APR-2013
Final Supplemental Investigation Report For Building 506 Underground Storage Tanks (YPG-45)	Parsons	APR-2013

YUMA PROVING GROUND

Compliance Restoration

Site Descriptions

Site ID: CCYPG-027
Site Name: INACTIVE LANDFILL 5KM SSE MAA
Alias: SWMU 37

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	199705	199904
CS	200603	200706
RFI/CMS	200709	201409
DES	201410	201505
CMI(C)	201505	201609
CMI(O)	201510	201609
LTM	201610	204509

RIP Date: 201609

RC Date: 201609

SITE DESCRIPTION

This site is identified in the Resource Conservation and Recovery Act (RCRA) facility assessment (RFA) as SMWU 37 and Defense Environmental Restoration Program (DERP) site YPG-027.

The Arizona Administrative Code (A.A.C.) R18-8-264.A and A.A.C.R18-8-270.A, 40CFR 264.101 require that "permits issued after Nov. 8, 1984 address corrective action, as necessary to protect public health and the environment, for releases of hazardous waste including hazardous constituents from any SWMU at the facility, regardless of when the waste was placed in the unit." The RCRA B permit application was submitted in September 2004. Under the provisions of the permit YPG is required to investigate this site.

The inactive landfill is five kilometers (km) south-southeast of the MAA and south of Imperial Dam Road. The landfill was in operation from 1950 to 1964. This is a 30-40 year old landfill, where open burning was practiced. The USEPA recommended soil and groundwater monitoring in the 1998 RFA. A release assessment was completed in 2001, and construction debris was observed covering approximately two to three acres. The release assessment recommended that confirmatory sampling (CS) and a geophysical study be conducted.

A geophysical survey of the landfill, to determine the approximate subsurface footprint and the location of metallic objects, was completed in November 2006. The survey found 15 acres of landfill debris. The ADEQ site visit of May 2007 revealed that gas and MWs and an impermeable cap would need to be completed for future cleanup phases. The Remedial Action Cost Engineering and Requirements (RACER) estimate reflects this. The underway phase of CMS is being performed via a performance-based contract (PBC), awarded in September 2007 and estimated via the PBC contract statement of work.

A surface removal action was conducted in November 2009, on a large area (approximately 600 ft by 60 ft) which was covered with scattered concrete pieces. In addition, a minor amounts of asphalt and soil piles were present along the eastern portion of the site. The surface was also littered with broken glass, burnt wood, cans, and pieces of metal. A RCRA Facility Investigation conducted in 2011 reduced the footprint of the landfill to 5.03 acres in size.

CLEANUP/EXIT STRATEGY

The YPG-27 landfill ceased receiving waste before Jan. 1, 1986; therefore, the landfill is a non-regulated solid waste landfill [ARS section 49-701(3)(b) and (29)]. The recommended cleanup/exit strategy is to: 1) address the surface runoff control to prevent uncovering of the debris; 2) conduct annual inspections for identifying subsidence and the uncovering of any debris; and 3) survey the area and incorporate into the USAGYPG Master Plan, given that waste is left in-place.

Site ID: CCYPG-028
Site Name: INACTIVE LANDFILL NW MAA SE Imperial Dam
Alias: SWMU 36

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
RFA	199705	199904
CS	200603	200706
RFI/CMS	200709	201407

RIP Date: N/A

RC Date: 201407

SITE DESCRIPTION

This site is identified in the RFA as SWMU 36.

The site is located approximately 1/2 mile north of the Main Administrative Area, southeast of Imperial Dam and within 200 yards of the Gila Main Canal. The 2012 RCRA Facility Investigation revealed that the site is approximately 0.06 acres. Prior to a surface removal action in November 2009 scattered pieces of broken glass and rusted metal were present at the site, along with a relatively large, shallow excavation and related soil piles near the northwest corner of the site. A small, collapsed feature containing visible, partially buried glass and metallic waste was present at the site. This coincides with a metallic geophysical anomaly identified during the previous magnetometer geophysical survey performed at the site. Test pit excavations indicate that a small amount of buried solid waste is present in one area at the site.

The A.A.C.R18-8-264.A and A.A.C.R18-8-270.A require that "permits issued after Nov. 8, 1984 address corrective action, as necessary to protect public health and the environment, for releases of hazardous waste including hazardous constituents from any SWMU at the facility, regardless of when the waste was placed in the unit." The RCRA B permit application was submitted in September 2004. Under the provisions of the permit YPG are required to investigate this site.

This inactive landfill operated for the period 1948 and 1949. A facility release assessment was completed in 2001, and miscellaneous debris was observed. Debris in mound covers approximately one to two acres. The release assessment recommended that CSs be taken and a geophysical survey be conducted.

A geophysical survey of the landfill, to determine the approximate subsurface footprint and the location of metallic objects, was completed in November 2006. The survey found two acres of landfill debris. The ADEQ site visit of May 2007 revealed that the site would need to have an impermeable cap, gas, and MWs installed. Estimated groundwater depth is 80 feet. A RFI was conducted in 2010 to delienate the horizontal and vertical extent of the landfill. A RAP is being conducted in 2013 to fullfill the CMS requirements for the site. A remedial report will be submitted to ADEQ no later than June 26, 2013 in anticipation of a NFA. This site will be listed as a no cost site.

CLEANUP/EXIT STRATEGY

The recommended exit strategy for the site is an interim removal action to remove the solid waste and site closure under the RAP as NFA.

Site ID: CCYPG-029
Site Name: INACTIVE LANDFILL E RT95 2KM W Kofa Ran.
Alias: SWMU 41

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA	199705	199904
CS	200603	200706
RFI/CMS	200909	201310
DES	201410	201505
CMI(C)	201505	201509
CMI(O)	201510	201609
LTM	201610	202509

RIP Date: 201510

RC Date: 201609

SITE DESCRIPTION

This site is identified in the RFA as SWMU 41.

This site is located on the Kofa Firing Range east of US Highway 95. The RCRA Facility investigation conducted in November 2011 revealed a footprint of 5.17 acres. Prior to the surface debris removal action in November 2009, numerous pieces of scrap metal, including a metal box and drum, were present on the ground surface in the northeastern portion of the site. Scrap wood and metal strapping/banding and other metal debris were present across the site, especially along the northwestern and western areas of the site. Depressions and disturbed vegetation also have been noted in the south central region of the landfill, and these coincide with metallic anomalies identified during a previously conducted geophysical (magnetometer) survey.

The A.A.C.R18-8-264.A and A.A.C.R18-8-270.A require that "permits issued after Nov. 8, 1984 address corrective action, as necessary to protect public health and the environment, for releases of hazardous waste including hazardous constituents from any SWMU at the facility, regardless of when the waste was placed in the unit." The RCRA B permit application was submitted in September 2004. Under the provisions of the permit YPG is required to investigate this site.

This is a 30-40 year old landfill, where open burning was practiced. This landfill covers approximately one to two acres. This site has a cross-reference with DERP site YPG-029. A release assessment was completed in 2001, and miscellaneous debris was observed, as well as depressions in the desert surface. The release assessment recommended that CSs be taken and a geophysical survey be conducted.

A geophysical survey of the landfill, to determine the approximate subsurface footprint and the location of metallic objects, was completed in November 2006. The survey found six acres of possible landfill debris. A May 2007 site visit by the ADEQ revealed that the site would require gas and MWs and an impermeable cap. The RACER estimate reflects this work.

CLEANUP/EXIT STRATEGY

The YPG-29 landfill ceased receiving waste before Jan. 1, 1986; therefore, the landfill is a non-regulated solid waste landfill [ARS section 49-701(3)(b) and (29)]. Therefore the recommended cleanup/exit strategy is to: 1) address the surface runoff control to prevent uncovering of the debris; 2) conduct annual inspection to identify subsidence and the exposure of any debris; and 3) survey the area and incorporate into the USAGYPG Master Plan, given that waste is left in-place.

Site ID: CCYPG-141
Site Name: INACTIVE LANDFILL
Alias: SWMU 39

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA	199705	199904
CS	200603	200706
RFI/CMS	200709	201310
DES	201410	201505
CMI(C)	201505	201509
CMI(O)	201510	201609
LTM	201610	204509

RIP Date: 201510

RC Date: 201609

SITE DESCRIPTION

This is an inactive landfill one mile northeast of the main administrative area (MAA), southwest of Laguna Army Airfield (LAAF). The site is approximately two acres, but the latest geophysical and background survey of 2006 determined it to be 16 acres. The area was used from 1964 through 1967. A release assessment was completed in 2001, and miscellaneous debris was observed.

RCRA Facility Investigation conducted February 2012 reduced the footprint of the landfill to approximately 4.1 acres in size. Prior to the surface debris removal action November 2009, abundant glass debris, burnt wood, and various metal scrap including cast-iron pipes, cans, cable, wire, metal banding/strapping, and other miscellaneous debris were present at the surface and within the drainage channel in the northwestern portion of the site. In addition, metallic anomalies identified during a geophysical survey indicated the presence of buried waste in the south central region of the landfill. A large pile of gravel-sized crushed concrete is present near the center of the site and is believed to come from a housing/administration area demolition project.

Following the November 2009 removal of approximately five cubic yards (cy) of metal surface debris, an additional geophysical survey was conducted using a G-858 magnetometer. The results of the survey, along with the results of the RFI, indicate that metallic wastes were likely buried in cut and fill trenches trending north-south across the site.

The site is identified in the RFA as SWMU 39.

The A.A.C.R18-8-264.A and A.A.C.R18-8-270.A require that "permits issued after Nov. 8, 1984 address corrective action, as necessary to protect public health and the environment, from releases of hazardous waste including hazardous constituents from any SWMU at the facility, regardless of when the waste was placed in the unit." The RCRA B permit application was submitted in September 2004. Under the provisions of the permit YPG is required to investigate this site.

The RFA phase recommended that a geophysical survey be completed with the potential for CS.

A geophysical survey of the landfill, to determine the approximate subsurface footprint and the location of metallic objects, was completed in November 2006.

The PBA contract awarded in September 2007 includes completion of the CMS in 2011. A corrective measures implementation (construction) [CMI(C)] phase is assumed to begin sometime in early FY12, after the CMS and design are completed.

Site ID: CCYPG-141
Site Name: INACTIVE LANDFILL
Alias: SWMU 39

CLEANUP/EXIT STRATEGY

The YPG-141 landfill ceased receving waste before Jan. 1, 1986; therefore, the landfill is a non-regulated solid waste landfill (ARS section 49-701(3)(b) and (29)). The recommended cleanup/exit strategy is to: 1) address the surface runoff control to prevent uncovering of the debris; 2) conduct annual inspections to identify subsidence and the exposure of any debris; and 3) survey the area and incorporate into the USAGYPG Master Plan, given that waste is left in-place.

Site ID: CCYPG-151
Site Name: LUST
Alias: MTA #2

STATUS

Regulatory Driver: CERCLA

Contaminants of Concern: Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA	199705	199904
SI	199905	200001
RI/FS	201501	201705

RIP Date: N/A

RC Date: 201705

SITE DESCRIPTION

This site was under the compliance related program and deemed eligible under the CR program and was transferred over during FY11. Three 10,000-gallon USTs were installed in circa 1971 and pulled circa 1992/4. The LUST Case File No. 4715.3801.02. The site is approximately two acres. Proper site closure activities were not concluded. The site has been adequately characterized per an ADEQ memorandum dated December 2002. Elevated levels of TPH were found at 45,500 parts per million (ppm). Due to the site not being an imminent or serious threat to public health, safety, or the environment, ADEQ had postponed submission of a corrective action plan.

The site has been reexamined with additional actions in accordance with an ADEQ meeting on June 16, 2009 between installation personnel and the ADEQ to review the status of the site after the removal of the three USTs in addition to soil contamination at the site. The ADEQ has requested additional characterization of the soils. The best professional judgment will be used in accordance with the Memorandum for Record (MFR) on the meeting.

The site is located in the east side of Ocotillo in the Yuma Test Center (YTC) of YPG. Tank removal and preliminary investigation at the site were performed by GPI in November of 1994. The results of the investigation are contained in Underground Storage Tank Closure Site Assessment, Gutierrez-Palmenberg, Inc., December 1994. Locations of obvious petroleum contamination were uncovered during the excavation analyses of samples taken suggesting that an unknown amount of petroleum was released to the soil.

CLEANUP/EXIT STRATEGY

The objective at this site is to fully delineate the extent of the contamination by resampling locations that had contamination above Arizona non-residential soil remediation levels (nrSRLs) and close the site. LUCs are curently in place at the site. CCYPG-151 is on YPG's contaminated sites list. The list was provided to master planning who listed it as a site that should be removed from consideration for new construction projects.

Site ID: CCYPG-165
Site Name: FUEL STATION #1 (UST 207 & 209)
Alias: YPG004F006

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
ISC	199705	199904
IMP(C)	200101	200605
LTM	200606	204209

RIP Date: N/A

RC Date: 200605

SITE DESCRIPTION

This contaminated site is located on USAG YPG, in the MAA, approximately one mile from the Colorado River. UST contamination is located at Buildings 207 and 209 and includes contamination from two 10,000-gallon steel USTs, which stored and dispensed leaded, unleaded and diesel fuel. The tank installation occurred in the 1953 or 1954. There was an unknown quantity of spill over the years of operation. In 1991 the tanks were pulled and replaced, and closure reports were submitted to the ADEQ.

The R18-12-262. LUST Site Investigation requires that "an owner or operator shall investigate a release at and from a LUST site to determine the full extent of the release of regulated substances, and shall determine the full extent of contamination, identify physical, natural, and artificial features at or surrounding the LUST site, that are current or potential pathways for contamination migration, identify current or potential receptors; and obtain any additional data necessary to determine site-specific corrective action standards, and to justify the selection of remedial alternatives to be used in responses to contaminated soil, surface water, and groundwater."

This site is also known as AOC 6. The site is an ADEQ LUST site (Case File No. 0682.02).

At the time of removal and replacement, contamination was detected in soil samples. Ten MWs were installed between 2000 and 2004. The following compounds were discovered in the groundwater at the indicated levels: benzene [530 milligrams per liter (mg/L)], toluene (1,700 mg/L), ethylbenzene (1,100 mg/L), and xylenes (1,500 mg/L). All these compounds exceed the state regulatory driver, which is the drinking water MCL. In 2001, draft site investigations were submitted to the ADEQ. Comments were received in 2002 requesting further characterization of the site. Fieldwork was conducted from November 2003 through June 2004. The results from this fieldwork were submitted in the Final Site Characterization Report (SCR), December 2005. The final SCR was reviewed and approved by the ADEQ in April 2006.

CLEANUP/EXIT STRATEGY

Monitoring is conducted on a semiannual basis, with a summary report submitted to ADEQ annually. If the size of the groundwater plume changes, or the plume begins to migrate towards to the YPG boundary, this strategy may change. Semiannual monitoring is currently scheduled to occur in June and November. An annual summary report is to be sent to ADEQ December of each year. The LTM effort will extend beyond the end date of the current PBA. The wells were resurveyed in January 2013.

Site ID: CCYPG-178
Site Name: INACTIVE LANDFILL 3 KM EAST OF MAIN ADMI
Alias: None

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Metals, Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
RFA	199705	199904
CS	200603	200706
RFI/CMS	200709	201409
DES	201410	201505
CMI(C)	201505	201509
CMI(O)	201510	201609
LTM	201610	204509

RIP Date: 201510

RC Date: 201609

SITE DESCRIPTION

This site is a historic landfill that was operated for an unknown period. This site is approximately one to two acres of debris mounds.

The YPG-178 site is located approximately 2 miles south-southeast of the Main Administrative Area, and consists of multiple surface and shallow subsurface disposal sites located approximately 200ft apart. The areas are located on a low-lying series of small rocky hills and have been designated YPG-178a and YPG-178b. The YPG-178a site is approximately 1.68 acres in size, and YPG-178b is approximately 0.76 acres. Disposal activities at the landfill reportedly occurred during the 1960s and 1970s.

The A.A.C.R18-8-264.A and A.A.C.R18-8-270.A require that "permits issued after Nov. 8, 1984 address corrective action, as necessary to protect public health and the environment, from releases of hazardous waste including hazardous constituents from any SWMU at the facility, regardless of when the waste was placed in the unit." The RCRA B permit application was submitted in September 2004. Under the provisions of the permit YPG is required to investigate this site.

The release assessment, conducted in 2001, recommended assessing disposal practices and sampling data.

A geophysical survey of the landfill, to determine the approximate subsurface footprint and the location of metallic objects, was completed in November 2006. The survey found six acres of landfill debris. A site visit in May 2007 by the ADEQ revealed that the site will need a cap, groundwater MWs, and gas wells.

Prior to the surface debris removal action in November 2009, the landfill was scattered with glass, burnt wood, cans, and scrap metal. Disturbed soil was also observed at the site. In addition, localized burn areas were observed at YPG-178a, and a partially buried drum was observed at YPG-178b. In 2009, the drum was removed and found to be empty.

Approximately 190 cubic yards of soil and ash were removed from the site and disposed at the YPG landfill. Ash from YPG-178b could not be completely removed and further investigation of the extent of the ash was required and performed as part of the RFI, including test pit excavations. Surface and subsurface investigation activities conducted during the RFI indicate ash/debris identified within YPG-178 consists of burnt municipal and industrial waste. No evidence of liquid waste or munitions debris disposal was identified in the excavated and removed ash/debris or the excavation/test pits at the site. A total of 33 soil samples were collected from surface locations, test pits, and background samples at YPG-178a and b. The nature and the extent of the ash material has been delineated at YPG-178, and detected constituents did not exceed ADEQs nrSRL, RSRL or GPL remediation goals and no further sampling is required.

Site ID: CCYPG-178
Site Name: INACTIVE LANDFILL 3 KM EAST OF MAIN ADMI
Alias: None

CLEANUP/EXIT STRATEGY

For the foreseeable future, YPG-178 will remain vacant unused land. The site has been listed in the base master plan as "to be removed from consideration for new construction projects," meaning that there are no plans for development of the site in the future.

The June 2012 RFI report recommends a CMS to evaluate the impacts to the site due to the remaining ash/debris present in Areas 1 and 2 (YPG-178a) and Area 6 (YPG-178b); however, based on waste characterization and test pit sampling of the ash and debris, the remaining waste was determined to be nonhazardous and future impacts to groundwater from the site are not expected. Therefore, no further action to mitigate risks to human health or the environment is required.

The Army's remediation experience with landfills is that the regulators require landfills to be capped in nearly all cases. Therefore, the CTC for this site includes a RCRA cap covering.

Site ID: CCYPG-204
Site Name: YPG- 138 UST SITE REMED. AAFES GAS STATI
Alias: YPG004F005

STATUS

Regulatory Driver: RCRA

Contaminants of Concern: Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern: Soil

Phases	Start	End
ISC	199705	199904
IMP(C)	200101	200606
LTM	200606	204209

RIP Date: N/A

RC Date: 200606

SITE DESCRIPTION

The Army and Air Force Exchange Service (AAFES) service station has been replaced by a larger, more modern facility. The old station has been demolished and the tanks were removed.

The R18-12-262. LUST Site Investigation, requires that "an owner or operator shall investigate a release at and from a LUST site to determine the full extent of the release of regulated substances, and shall determine the full extent of contamination, identify physical, natural, and artificial features at or surrounding the LUST site, that are current or potential pathways for contamination migration, identify current or potential receptors; and obtain any additional data necessary to determine site-specific corrective action standards, and to justify the selection of remedial alternatives to be used in responses to contaminated soil, surface water, and groundwater."

The site is an ADEQ LUST case, file number 0682.03, with UST numbers 004A, 004B, and 004C.

The contaminated site is located in the YPG MMA, approximately one-half mile from the Colorado River. This UST site includes contamination from three steel 10,000 gallon USTs which stored and dispensed diesel fuel and gasoline. The tank installation occurred circa 1953 or 1954. In 1991, the tanks were pulled and replaced by three fiberglass tanks, and closure reports were submitted to the ADEQ. Two of the three USTs were reported as leaking. It is estimated that the two tanks leaked over a period of 23 years. The total estimated volume leaked was approximately 17,000 to 42,000 gallons of leaded and unleaded gasoline. At the time of removal and replacement, contamination was detected in seven soil samples taken during the tank removal.

In 1998, a site characterization was conducted by Gutierrez-Palmenburg Inc. (GPI), and this investigation included soil borings and hydropunch samples. The results were used to delineate the plume.

Nine MWs were installed between 2000 and 2004 and were sampled twice. The following compounds were discovered in the groundwater at the indicated levels: benzene (3,100 mg/L) and naphthalene (12,000 mg/L). All these compounds exceed the state regulatory limit.

CLEANUP/EXIT STRATEGY

Groundwater monitoring is conducted on a semiannual basis, with a summary report submitted to ADEQ annually. If the size of the groundwater plume changes, or the plume begins to migrate towards the YPG boundary, this strategy may change. Semiannual monitoring is currently scheduled to occur in June and November. An annual summary report is to be sent to the ADEQ in December of each year. The LTM effort will extend beyond the end date of the current PBA. The wells were resurveyed January 2013 under the Parsons contract.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
CCYPG-143	Inactive Landfill SSE of LAAF	201210	ADEQ letter dated March 23, 2012 (REF:HWP-EX2514) Acknowledgement of completion of corrective action at inactive landfill YPG-134; USAGYPG USEPA ID No. AZ5 213 820 991

CR Schedule

Date of CR Inception: 199705

Past Phase Completion Milestones

1999

ISC	(CCYPG-165 - FUEL STATION #1 (UST 207 & 209), CCYPG-204 - YPG- 138 UST SITE REMED. AAFES GAS STATI)
PA	(CCYPG-151 - LUST)
RFA	(CCYPG-027 - INACTIVE LANDFILL 5KM SSE MAA, CCYPG-028 - INACTIVE LANDFILL NW MAA SE Imperial Dam, CCYPG-029 - INACTIVE LANDFILL E RT95 2KM W Kofa Ran., CCYPG-141 - INACTIVE LANDFILL, CCYPG-143 - Inactive Landfill SSE of LAAF , CCYPG-178 - INACTIVE LANDFILL 3 KM EAST OF MAIN ADMI)

2000

SI	(CCYPG-151 - LUST)

2006

IMP(C)	(CCYPG-165 - FUEL STATION #1 (UST 207 & 209), CCYPG-204 - YPG- 138 UST SITE REMED. AAFES GAS STATI)

2007

CS	(CCYPG-027 - INACTIVE LANDFILL 5KM SSE MAA, CCYPG-028 - INACTIVE LANDFILL NW MAA SE Imperial Dam, CCYPG-029 - INACTIVE LANDFILL E RT95 2KM W Kofa Ran., CCYPG-141 - INACTIVE LANDFILL, CCYPG-143 - Inactive Landfill SSE of LAAF , CCYPG-178 - INACTIVE LANDFILL 3 KM EAST OF MAIN ADMI)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

To Be Determined

Final RA(C) Completion Date: 201609

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of CR at Installation (including LTM phase): 204509

YUMA PROVING GROUND CR Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
CCYPG-027	INACTIVE LANDFILL 5KM SSE MAA	RFI/CMS	■					
		DES		■				
		CMI(C)		■	■			
		CMI(O)			■			
		LTM				■	■	■
CCYPG-028	INACTIVE LANDFILL NW MAA SE Imperial Dam	RFI/CMS	■					
CCYPG-029	INACTIVE LANDFILL E RT95 2KM W Kofa Ran.	RFI/CMS	■					
		DES		■				
		CMI(C)		■				
		CMI(O)			■			
		LTM				■	■	■
CCYPG-141	INACTIVE LANDFILL	RFI/CMS	■					
		DES		■				
		CMI(C)		■				
		CMI(O)			■			
		LTM				■	■	■
CCYPG-151	LUST	RI/FS		■	■	■		
CCYPG-165	FUEL STATION #1 (UST 207 & 209)	LTM	■	■	■	■	■	■
CCYPG-178	INACTIVE LANDFILL 3 KM EAST OF MAIN ADMI	RFI/CMS	■					
		DES		■				
		CMI(C)		■				
		CMI(O)			■			
		LTM				■	■	■
CCYPG-204	YPG- 138 UST SITE REMED. AAFES GAS STATI	LTM	■	■	■	■	■	■

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201009

Restoration Advisory Board (RAB): RAB established 201006

RAB Adjournment Date: N/A
RAB Adjournment Reason: None

Additional Community Involvement Information

A final community relations plan was finalized September 2010. A copy was submitted to the ADEQ. The YPG established a RAB and held its first meeting in June 2010.

Administrative Record is located at

US Army Garrison YPG
Environmental Sciences Division
Building 307, First Floor
YPG, AZ

Information Repository is located at

TBD

Current Technical Assistance for Public Participation (TAPP): N/A

TAPP Title: N/A

Potential TAPP: N/A